

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457.  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 15-Aug-09

CUSTOMER P.O.# : 75ADV-S063182

SYSTEM SN: S0812221-01-01

KAMAN SALES ORDER NO: R090423WM1

SENSOR SN: S0812221-01-01 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-01 X+

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.979	-0.10%
-40	-7.961	-7.979	0.09%
-30	-5.941	-5.978	0.18%
-20	-3.946	-3.978	0.16%
-10	-1.969	-1.977	0.04%
0	0.000	0.023	-0.12%
10	1.980	2.024	-0.22%
20	3.973	4.025	-0.26%
30	5.989	6.025	-0.18%
40	8.027	8.026	0.01%
50	10.106	10.026	0.40%

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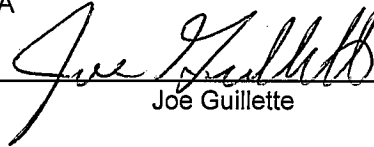
SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                MAX NON-LIN:            0.40%  
TARGET CURVATURE:           Flat                        SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
\_\_\_\_\_  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 15-Aug-09

CUSTOMER P.O.# : 75ADV-S063182

SYSTEM SN: S0812221-01-01

KAMAN SALES ORDER NO: R090423WM1

SENSOR SN: S0812221-01-01 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-01 Y+

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.001	-9.953	-0.24%
-40	-7.947	-7.960	0.07%
-30	-5.919	-5.967	0.24%
-20	-3.927	-3.974	0.23%
-10	-1.958	-1.981	0.11%
0	0.000	0.013	-0.06%
10	1.965	2.006	-0.20%
20	3.944	3.999	-0.27%
30	5.947	5.992	-0.22%
40	7.980	7.985	-0.03%
50	10.054	9.978	0.38%

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SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:                      0.50%  
TARGET MATERIAL:            Aluminum                      MAX NON-LIN:                      0.38%  
TARGET CURVATURE:           Flat                              SCALE (V/Mils):                    0.199  
CALIBRATION NULL (Mils):    60  
P/N:    854925-204

NOTES:

CHANNEL #:                                      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 15-Aug-09

CUSTOMER P.O.# : 75ADV-S063182

SYSTEM SN: S0812221-01-02

KAMAN SALES ORDER NO: R090423WM1

SENSOR SN: S0812221-01-02 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-02 X+

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.967	-0.16%
-40	-7.948	-7.969	0.10%
-30	-5.924	-5.970	0.23%
-20	-3.931	-3.972	0.20%
-10	-1.960	-1.974	0.07%
0	0.002	0.025	-0.11%
10	1.975	2.023	-0.24%
20	3.959	4.022	-0.31%
30	5.973	6.020	-0.23%
40	8.015	8.018	-0.02%
50	10.112	10.017	0.47%

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SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.47%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 15-Aug-09

CUSTOMER P.O.# : 75ADV-S063182

SYSTEM SN: S0812221-01-02

KAMAN SALES ORDER NO: R090423WM1

SENSOR SN: S0812221-01-02 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-02 Y+

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.959	-0.21%
-40	-7.943	-7.962	0.09%
-30	-5.915	-5.966	0.25%
-20	-3.922	-3.969	0.23%
-10	-1.954	-1.972	0.09%
0	0.001	0.024	-0.11%
10	1.970	2.021	-0.25%
20	3.955	4.017	-0.31%
30	5.966	6.014	-0.24%
40	8.009	8.010	-0.01%
50	10.098	10.007	0.45%

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SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.45%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-01-03

KAMAN SALES ORDER NO: R091120WM1

SENSOR SN: S0812221-01-03 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-03 X+

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.937	-0.32%
-40.0	-7.926	-7.947	0.11%
-30.0	-5.908	-5.958	0.25%
-20.0	-3.914	-3.969	0.27%
-10.0	-1.948	-1.980	0.16%
0.0	0.001	0.009	-0.04%
10.0	1.951	1.999	-0.24%
20.0	3.919	3.988	-0.34%
30.0	5.929	5.977	-0.24%
40.0	7.963	7.966	-0.02%
50.0	10.036	9.955	0.40%

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SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.40%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
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217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-01-03

KAMAN SALES ORDER NO: R091120WM1

SENSOR SN: S0812221-01-03 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-03 Y+

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.002	-9.920	-0.41%
-40.0	-7.930	-7.937	0.03%
-30.0	-5.906	-5.954	0.24%
-20.0	-3.908	-3.971	0.32%
-10.0	-1.943	-1.989	0.23%
0.0	0.003	-0.006	0.05%
10.0	1.945	1.977	-0.16%
20.0	3.903	3.959	-0.28%
30.0	5.900	5.942	-0.21%
40.0	7.916	7.925	-0.05%
50.0	9.956	9.908	0.24%

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SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.41%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-01-04

KAMAN SALES ORDER NO: R091120WM1

SENSOR SN: S0812221-01-04 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-04 X+

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-10.001	0.00%
-40.0	-7.987	-7.998	0.06%
-30.0	-5.979	-5.995	0.08%
-20.0	-3.979	-3.992	0.06%
-10.0	-1.989	-1.988	0.00%
0.0	0.000	0.015	-0.08%
10.0	1.985	2.018	-0.17%
20.0	3.992	4.022	-0.15%
30.0	6.015	6.025	-0.05%
40.0	8.032	8.028	0.02%
50.0	10.077	10.032	0.23%

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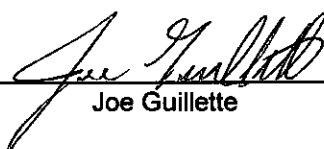
SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN: 0.23%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN: \_\_\_\_\_



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 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-01-04

KAMAN SALES ORDER NO: R091120WM1

SENSOR SN: S0812221-01-04 Y-


SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-01-04 Y+

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.968	-0.16%
-40.0	-7.961	-7.973	0.06%
-30.0	-5.944	-5.978	0.17%
-20.0	-3.948	-3.983	0.17%
-10.0	-1.973	-1.988	0.07%
0.0	-0.001	0.007	-0.04%
10.0	1.964	2.002	-0.19%
20.0	3.953	3.997	-0.22%
30.0	5.964	5.992	-0.14%
40.0	7.984	7.987	-0.01%
50.0	10.040	9.982	0.29%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.29%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette



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 217 SMITH STREET  
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 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-01

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-01 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-01 X+

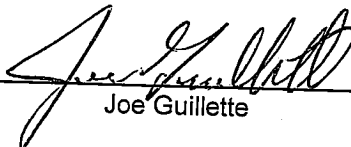
DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.002	-9.964	-0.19%
-40	-7.964	-7.970	0.03%
-30	-5.948	-5.976	0.14%
-20	-3.946	-3.982	0.18%
-10	-1.958	-1.988	0.15%
0	0.002	0.006	-0.02%
10	1.970	2.000	-0.15%
20	3.951	3.994	-0.22%
30	5.958	5.988	-0.15%
40	7.979	7.982	-0.02%
50	10.025	9.976	0.24%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.24%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:  
 CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-01

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-01 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-01 Y+

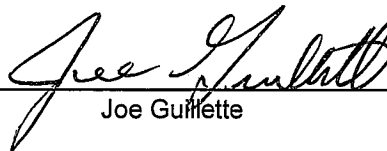
DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.943	-0.29%
-40	-7.958	-7.956	-0.01%
-30	-5.937	-5.969	0.16%
-20	-3.937	-3.982	0.22%
-10	-1.953	-1.995	0.21%
0	0.001	-0.008	0.04%
10	1.961	1.979	-0.09%
20	3.930	3.966	-0.18%
30	5.921	5.953	-0.16%
40	7.930	7.940	-0.05%
50	9.959	9.927	0.16%

SUPPLY VOLTAGE (VOLTS):	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.29%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN:

  
Joe Guiffette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-02

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-02 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-02 X+

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50	-10.000	-9.991	-0.04%
-40	-7.978	-7.990	0.06%
-30	-5.966	-5.988	0.11%
-20	-3.963	-3.987	0.12%
-10	-1.973	-1.985	0.06%
0	-0.001	0.017	-0.09%
10	1.980	2.018	-0.19%
20	3.974	4.020	-0.23%
30	5.991	6.021	-0.15%
40	8.026	8.023	0.02%
50	10.092	10.024	0.34%

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SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.34%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-02

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-02 Y--

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-02 Y+

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.937	-0.32%
-40	-7.945	-7.950	0.03%
-30	-5.926	-5.963	0.18%
-20	-3.926	-3.976	0.25%
-10	-1.951	-1.989	0.19%
0	0.008	-0.002	0.05%
10	1.959	1.985	-0.13%
20	3.926	3.972	-0.23%
30	5.918	5.959	-0.21%
40	7.936	7.946	-0.05%
50	9.981	9.933	0.24%

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SUPPLY VOLTAGE (VOLTS): ±15  
TARGET MATERIAL: Aluminum  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.32%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN SALES ORDER NO: R090617DS1  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-02-03  
SENSOR SN: S0812221-02-03 X-  
SENSOR SN: S0812221-02-03 X+

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DISPLACEMENT	OUTPUT	LEAST SQUARES	FITNON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.001	-9.940	-0.31%
-40	-7.944	-7.951	0.04%
-30	-5.918	-5.963	0.22%
-20	-3.917	-3.974	0.29%
-10	-1.947	-1.986	0.19%
0	0.002	0.003	0.00%
10	1.952	1.991	-0.19%
20	3.920	3.979	-0.30%
30	5.918	5.968	-0.25%
40	7.950	7.956	-0.03%
50	10.013	9.945	0.34%

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SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.34%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-03

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-03 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-03 Y+

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.002	-9.960	-0.21%
-40	-7.957	-7.967	0.05%
-30	-5.940	-5.974	0.17%
-20	-3.941	-3.980	0.20%
-10	-1.961	-1.987	0.13%
0	0.002	0.006	-0.02%
10	1.965	2.000	-0.17%
20	3.945	3.993	-0.24%
30	5.950	5.986	-0.18%
40	7.976	7.979	-0.02%
50	10.031	9.973	0.29%

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SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.29%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-04

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-04 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-04 X+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.938	-0.31%
-40	-7.940	-7.950	0.05%
-30	-5.917	-5.962	0.22%
-20	-3.920	-3.973	0.27%
-10	-1.944	-1.985	0.20%
0	0.000	0.004	-0.02%
10	1.954	1.992	-0.19%
20	3.922	3.980	-0.29%
30	5.920	5.969	-0.24%
40	7.953	7.957	-0.02%
50	10.012	9.946	0.33%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.33%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-04

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-04 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-04 Y+

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.007	-9.963	-0.22%
-40	-7.951	-7.968	0.08%
-30	-5.923	-5.972	0.24%
-20	-3.930	-3.976	0.23%
-10	-1.954	-1.980	0.13%
0	0.000	0.016	-0.08%
10	1.962	2.011	-0.25%
20	3.940	4.007	-0.33%
30	5.952	6.003	-0.25%
40	7.996	7.999	-0.01%
50	10.086	9.994	0.46%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.46%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

*Joe Guillette*  
 \_\_\_\_\_  
 Joe Guillette



KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology                      DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty    SYSTEM SN: S0812221-02-05  
 KAMAN S/O # : R091120WM1    SENSOR SN: S0812221-02-05 X-  
 SYSTEM MODEL NO.: DIT5200-20N                                    SENSOR SN: S0812221-02-05 X+


DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.003	-9.908	-0.48%
-40	-7.930	-7.930	0.00%
-30	-5.897	-5.952	0.27%
-20	-3.905	-3.973	0.34%
-10	-1.942	-1.995	0.26%
0	0.001	-0.016	0.09%
10	1.940	1.962	-0.11%
20	3.889	3.941	-0.26%
30	5.865	5.919	-0.27%
40	7.881	7.897	-0.08%
50	9.922	9.876	0.23%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.48%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN:

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-02-05

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-02-05 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-05 Y+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-9.999	-9.933	-0.33%
-40	-7.935	-7.947	0.06%
-30	-5.910	-5.960	0.25%
-20	-3.916	-3.974	0.29%
-10	-1.953	-1.987	0.17%
0	-0.003	-0.001	-0.01%
10	1.947	1.985	-0.19%
20	3.911	3.972	-0.30%
30	5.904	5.958	-0.27%
40	7.940	7.945	-0.02%
50	10.003	9.931	0.36%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.36%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 14-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-06

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-06 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-06 X+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.991	-0.05%
-40	-7.989	-7.992	0.01%
-30	-5.993	-5.993	0.00%
-20	-3.984	-3.994	0.05%
-10	-1.991	-1.995	0.02%
0	0.001	0.004	-0.01%
10	2.002	2.003	0.00%
20	4.003	4.002	0.01%
30	6.000	6.001	0.00%
40	7.995	7.999	-0.02%
50	9.999	9.998	0.00%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Aluminum  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.05%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 14-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-06

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-06 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-06 Y+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.945	-0.28%
-40	-7.955	-7.957	0.01%
-30	-5.942	-5.970	0.14%
-20	-3.942	-3.983	0.21%
-10	-1.967	-1.996	0.14%
0	-0.003	-0.009	0.03%
10	1.967	1.978	-0.06%
20	3.943	3.966	-0.11%
30	5.925	5.953	-0.14%
40	7.927	7.940	-0.06%
50	9.951	9.927	0.12%

---

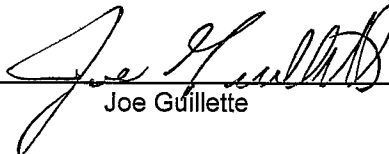
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.28%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 14-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-07

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-07 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-07 X+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.936	-0.32%
-40	-7.933	-7.948	0.07%
-30	-5.912	-5.959	0.23%
-20	-3.917	-3.970	0.27%
-10	-1.951	-1.981	0.15%
0	0.000	0.007	-0.04%
10	1.963	1.996	-0.16%
20	3.935	3.985	-0.25%
30	5.927	5.973	-0.23%
40	7.949	7.962	-0.07%
50	10.019	9.951	0.34%

---

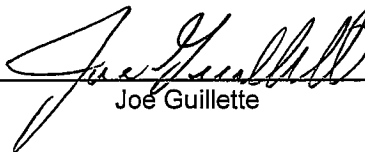
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.34%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 14-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-07

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-07 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-07 Y+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.002	-9.929	-0.37%
-40	-7.931	-7.942	0.05%
-30	-5.902	-5.955	0.27%
-20	-3.908	-3.969	0.30%
-10	-1.944	-1.982	0.19%
0	0.001	0.005	-0.02%
10	1.955	1.991	-0.18%
20	3.924	3.978	-0.27%
30	5.914	5.965	-0.25%
40	7.938	7.951	-0.07%
50	10.007	9.938	0.34%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.37%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology      DATE: 9-Sep-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-02-08  
 KAMAN SALES ORDER NO: R090617DS1      SENSOR SN: S0812221-02-08 X-  
 SYSTEM MODEL NO.: DIT5200-20N      SENSOR SN: S0812221-02-08 X+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.921	-0.39%
-40	-7.931	-7.939	0.04%
-30	-5.904	-5.957	0.26%
-20	-3.910	-3.974	0.32%
-10	-1.948	-1.992	0.22%
0	-0.004	-0.009	0.03%
10	1.938	1.973	-0.17%
20	3.895	3.955	-0.30%
30	5.884	5.938	-0.27%
40	7.901	7.920	-0.10%
50	9.975	9.903	0.36%

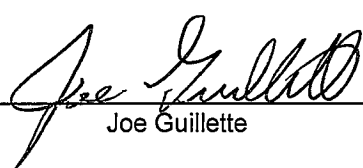
---

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.50%  
 TARGET MATERIAL:      Aluminum      MAX NON-LIN:      0.39%  
 TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.198  
 CALIBRATION NULL (Mils):    60  
 P/N:      854925-204

NOTES:

CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 9-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-08

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-08 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-08 Y+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.004	-9.934	-0.35%
-40	-7.940	-7.947	0.04%
-30	-5.913	-5.961	0.24%
-20	-3.916	-3.974	0.29%
-10	-1.951	-1.988	0.18%
0	0.002	-0.001	0.02%
10	1.954	1.985	-0.16%
20	3.917	3.972	-0.27%
30	5.912	5.958	-0.23%
40	7.928	7.945	-0.08%
50	9.996	9.931	0.32%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.35%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 10-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-09

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-09 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-09 X+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.001	-9.937	-0.32%
-40	-7.931	-7.949	0.09%
-30	-5.916	-5.962	0.23%
-20	-3.922	-3.975	0.26%
-10	-1.956	-1.987	0.16%
0	-0.004	0.000	-0.02%
10	1.949	1.987	-0.19%
20	3.918	3.975	-0.28%
30	5.915	5.962	-0.23%
40	7.939	7.949	-0.05%
50	10.008	9.936	0.36%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                MAX NON-LIN:            0.36%  
TARGET CURVATURE:          Flat                      SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 10-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-09

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-09 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-09 Y+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50	-9.999	-9.927	-0.36%
-40	-7.931	-7.941	0.05%
-30	-5.904	-5.956	0.26%
-20	-3.912	-3.970	0.29%
-10	-1.946	-1.984	0.19%
0	0.004	0.002	0.01%
10	1.951	1.987	-0.18%
20	3.915	3.973	-0.29%
30	5.911	5.959	-0.24%
40	7.932	7.945	-0.06%
50	9.998	9.931	0.34%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.36%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 10-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-10

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-10 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-10 X+

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.002	-9.946	-0.28%
-40	-7.940	-7.955	0.08%
-30	-5.922	-5.965	0.22%
-20	-3.925	-3.975	0.25%
-10	-1.957	-1.985	0.14%
0	-0.003	0.005	-0.04%
10	1.958	1.995	-0.19%
20	3.933	3.985	-0.26%
30	5.935	5.976	-0.20%
40	7.957	7.966	-0.04%
50	10.023	9.956	0.34%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL:      Aluminum      MAX NON-LIN:      0.34%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils):      60  
P/N:      854925-204  
NOTES:  
CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 10-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-10

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-10 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-10 Y+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50	-10.001	-9.929	-0.36%
-40	-7.932	-7.944	0.06%
-30	-5.909	-5.959	0.25%
-20	-3.915	-3.974	0.29%
-10	-1.951	-1.989	0.19%
0	-0.001	-0.004	0.02%
10	1.943	1.981	-0.19%
20	3.906	3.966	-0.30%
30	5.903	5.950	-0.24%
40	7.924	7.935	-0.06%
50	9.987	9.920	0.33%

---


SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.36%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:



Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 11-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-11

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-11 X-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-11 X+

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.002	-9.951	-0.25%
-40	-7.943	-7.959	0.08%
-30	-5.922	-5.968	0.23%
-20	-3.933	-3.976	0.22%
-10	-1.962	-1.985	0.11%
0	0.002	0.007	-0.03%
10	1.960	1.999	-0.19%
20	3.934	3.990	-0.28%
30	5.939	5.982	-0.21%
40	7.968	7.974	-0.03%
50	10.037	9.965	0.36%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.36%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 11-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-11

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-11 Y-

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-11 Y+

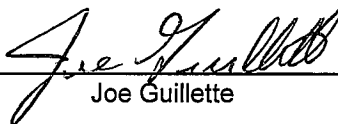
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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.001	-9.973	-0.14%
-40	-7.952	-7.974	0.11%
-30	-5.933	-5.975	0.21%
-20	-3.942	-3.976	0.17%
-10	-1.969	-1.977	0.04%
0	-0.001	0.022	-0.11%
10	1.974	2.021	-0.23%
20	3.961	4.020	-0.29%
30	5.981	6.019	-0.19%
40	8.021	8.018	0.01%
50	10.102	10.017	0.42%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                      MAX NON-LIN:            0.42%  
TARGET CURVATURE:           Flat                              SCALE (V/Mils):         0.200  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204  
NOTES:  
CHANNEL #:                        B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technolgy

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-12

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-12 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-12 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-9.964	-0.19%
-40.00	-7.965	-7.971	0.03%
-30.00	-5.947	-5.977	0.15%
-20.00	-3.949	-3.984	0.17%
-10.00	-1.966	-1.990	0.12%
0.00	0.000	0.003	-0.02%
10.00	1.971	1.997	-0.13%
20.00	3.951	3.990	-0.20%
30.00	5.951	5.984	-0.16%
40.00	7.975	7.978	-0.01%
50.00	10.018	9.971	0.23%

---

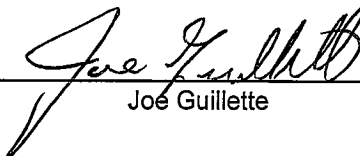
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.23%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-12

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-12 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-12 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-10.005	0.02%
-40.00	-7.978	-7.998	0.10%
-30.00	-5.963	-5.991	0.14%
-20.00	-3.964	-3.984	0.10%
-10.00	-1.977	-1.976	0.00%
0.00	0.000	0.031	-0.15%
10.00	1.987	2.038	-0.25%
20.00	3.991	4.045	-0.27%
30.00	6.017	6.053	-0.18%
40.00	8.069	8.060	0.05%
50.00	10.158	10.067	0.45%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.45%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:



Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-13

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-13 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-13 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.012	-9.914	-0.49%
-40.00	-7.946	-7.936	-0.05%
-30.00	-5.914	-5.959	0.23%
-20.00	-3.915	-3.982	0.34%
-10.00	-1.949	-2.005	0.28%
0.00	0.005	-0.028	0.16%
10.00	1.943	1.950	-0.03%
20.00	3.887	3.927	-0.20%
30.00	5.859	5.904	-0.23%
40.00	7.858	7.881	-0.12%
50.00	9.880	9.858	0.11%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.49%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : R090617DS1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-02-13  
SENSOR SN: S0812221-02-13 +Y  
SENSOR SN: S0812221-02-13 -Y

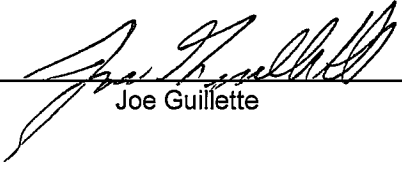
---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.000	-9.936	-0.32%
-40.00	-7.934	-7.946	0.06%
-30.00	-5.903	-5.957	0.27%
-20.00	-3.907	-3.968	0.30%
-10.00	-1.941	-1.979	0.19%
0.00	0.004	0.011	-0.03%
10.00	1.952	2.000	-0.24%
20.00	3.920	3.989	-0.35%
30.00	5.922	5.979	-0.28%
40.00	7.961	7.968	-0.03%
50.00	10.044	9.957	0.43%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$                   NON-LIN SPEC:                  0.50%  
TARGET MATERIAL: Alum.                          MAX NON-LIN:                  0.43%  
TARGET CURVATURE: Flat                          SCALE (V/Mils):                  0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-14

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-14 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812220-02-14 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.002	-9.972	-0.15%
-40.00	-7.965	-7.974	0.05%
-30.00	-5.943	-5.977	0.17%
-20.00	-3.943	-3.980	0.18%
-10.00	-1.963	-1.982	0.10%
0.00	0.004	0.015	-0.06%
10.00	1.974	2.013	-0.19%
20.00	3.961	4.010	-0.24%
30.00	5.974	6.008	-0.17%
40.00	8.004	8.005	0.00%
50.00	10.067	10.002	0.32%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.32%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-14

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-14 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-14 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-9.999	-9.937	-0.31%
-40.00	-7.942	-7.948	0.03%
-30.00	-5.911	-5.960	0.25%
-20.00	-3.916	-3.972	0.28%
-10.00	-1.945	-1.984	0.19%
0.00	0.003	0.005	-0.01%
10.00	1.950	1.993	-0.21%
20.00	3.923	3.981	-0.29%
30.00	5.925	5.969	-0.22%
40.00	7.950	7.958	-0.04%
50.00	10.013	9.946	0.34%

---

SUPPLY VOLTAGE (VOLTS): ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.34%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-15

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-15 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-15 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.919	-0.41%
-40.00	-7.934	-7.937	0.01%
-30.00	-5.903	-5.954	0.26%
-20.00	-3.912	-3.972	0.30%
-10.00	-1.945	-1.990	0.23%
0.00	0.000	-0.008	0.04%
10.00	1.948	1.974	-0.13%
20.00	3.906	3.956	-0.25%
30.00	5.895	5.938	-0.22%
40.00	7.907	7.921	-0.07%
50.00	9.950	9.903	0.24%

---

SUPPLY VOLTAGE (VOLTS): ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.41%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.198  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-15

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-15 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-15 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-9.953	-0.24%
-40.00	-7.944	-7.960	0.08%
-30.00	-5.922	-5.966	0.22%
-20.00	-3.925	-3.973	0.24%
-10.00	-1.955	-1.980	0.12%
0.00	0.000	0.014	-0.07%
10.00	1.963	2.007	-0.22%
20.00	3.941	4.000	-0.29%
30.00	5.959	5.993	-0.17%
40.00	7.980	7.987	-0.03%
50.00	10.053	9.980	0.36%

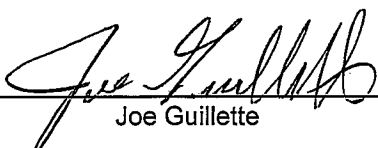
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SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                      MAX NON-LIN:            0.36%  
TARGET CURVATURE:        Flat                        SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-16

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-16 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-16 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.926	-0.37%
-40.00	-7.932	-7.941	0.04%
-30.00	-5.904	-5.956	0.26%
-20.00	-3.909	-3.971	0.31%
-10.00	-1.945	-1.986	0.20%
0.00	-0.001	0.000	0.00%
10.00	1.949	1.985	-0.18%
20.00	3.911	3.970	-0.29%
30.00	5.907	5.955	-0.24%
40.00	7.929	7.940	-0.05%
50.00	9.990	9.925	0.32%

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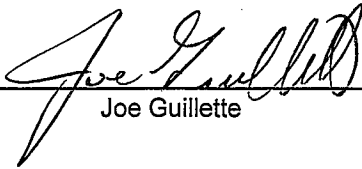
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.37%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-16

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-16 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-16 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50.00	-10.005	-9.994	-0.06%
-40.00	-7.979	-7.993	0.07%
-30.00	-5.996	-5.992	-0.02%
-20.00	-3.960	-3.991	0.16%
-10.00	-1.974	-1.991	0.08%
0.00	0.001	0.010	-0.05%
10.00	1.984	2.011	-0.13%
20.00	3.977	4.012	-0.17%
30.00	5.991	6.013	-0.11%
40.00	8.015	8.014	0.01%
50.00	10.059	10.014	0.22%

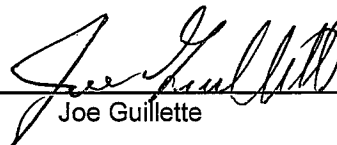
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.22%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-17

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-17 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-17 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.950	-0.25%
-40.00	-7.938	-7.957	0.10%
-30.00	-5.929	-5.964	0.18%
-20.00	-3.937	-3.972	0.17%
-10.00	-1.964	-1.979	0.07%
0.00	0.010	0.014	-0.02%
10.00	1.989	2.007	-0.09%
20.00	3.962	4.000	-0.19%
30.00	5.960	5.993	-0.16%
40.00	7.967	7.985	-0.09%
50.00	10.035	9.978	0.28%

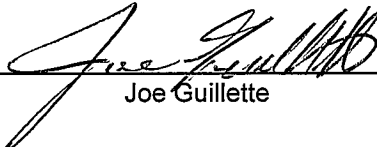
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.28%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_



Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-17

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-17 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-17 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.969	-0.15%
-40.00	-7.958	-7.972	0.07%
-30.00	-5.944	-5.976	0.16%
-20.00	-3.947	-3.979	0.16%
-10.00	-1.966	-1.983	0.08%
0.00	0.001	0.014	-0.06%
10.00	1.975	2.010	-0.18%
20.00	3.965	4.007	-0.21%
30.00	5.972	6.004	-0.16%
40.00	7.996	8.000	-0.02%
50.00	10.059	9.997	0.31%

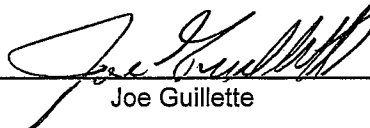
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SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.31%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : R090617DS1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-02-18  
SENSOR SN: S0812221-02-18 +X  
SENSOR SN: S0812221-02-18 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-9.950	-0.26%
-40.00	-7.958	-7.961	0.01%
-30.00	-5.936	-5.971	0.18%
-20.00	-3.938	-3.982	0.22%
-10.00	-1.960	-1.992	0.16%
0.00	-0.001	-0.003	0.01%
10.00	1.960	1.987	-0.13%
20.00	3.938	3.976	-0.19%
30.00	5.935	5.966	-0.15%
40.00	7.948	7.955	-0.04%
50.00	9.985	9.945	0.20%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.26%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-18

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-18 +Y

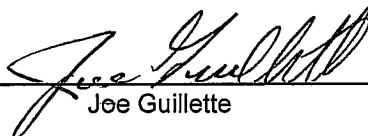
SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-18 -Y

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-9.973	-0.14%
-40.00	-7.958	-7.974	0.08%
-30.00	-5.937	-5.975	0.19%
-20.00	-3.940	-3.976	0.18%
-10.00	-1.962	-1.977	0.08%
0.00	0.003	0.022	-0.09%
10.00	1.973	2.021	-0.24%
20.00	3.966	4.020	-0.27%
30.00	5.983	6.019	-0.18%
40.00	8.021	8.018	0.01%
50.00	10.094	10.017	0.38%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.38%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-19

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-19 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-19 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-9.941	-0.30%
-40.00	-7.944	-7.953	0.05%
-30.00	-5.920	-5.965	0.23%
-20.00	-3.929	-3.977	0.24%
-10.00	-1.953	-1.989	0.18%
0.00	-0.002	-0.001	-0.01%
10.00	1.951	1.988	-0.18%
20.00	3.925	3.976	-0.25%
30.00	5.923	5.964	-0.20%
40.00	7.945	7.952	-0.04%
50.00	9.999	9.940	0.29%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.30%  
TARGET CURVATURE:        Flat                      SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils): 60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-19

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-19 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-19 -Y

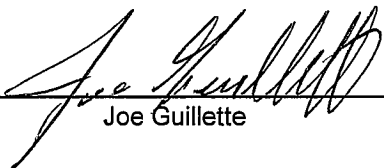
---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-9.939	-0.31%
-40.00	-7.951	-7.952	0.01%
-30.00	-5.926	-5.965	0.20%
-20.00	-3.926	-3.978	0.26%
-10.00	-1.953	-1.991	0.19%
0.00	0.002	-0.004	0.03%
10.00	1.955	1.983	-0.14%
20.00	3.928	3.970	-0.21%
30.00	5.921	5.957	-0.18%
40.00	7.935	7.944	-0.04%
50.00	9.972	9.931	0.21%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.31%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology      DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-02-20  
KAMAN SALES ORDER NO: R090617DS1      SENSOR SN: S0812221-02-20 +X  
SYSTEM MODEL NO.: DIT5200-20N      SENSOR SN: S0812221-02-20 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.001	-9.981	-0.10%
-40	-7.968	-7.982	0.07%
-30	-5.952	-5.982	0.15%
-20	-3.953	-3.983	0.15%
-10	-1.971	-1.984	0.06%
0	0.000	0.015	-0.08%
10	1.971	2.015	-0.22%
20	3.968	4.014	-0.23%
30	5.982	6.013	-0.16%
40	8.015	8.012	0.01%
50	10.079	10.012	0.34%

---

SUPPLY VOLTAGE (VOLTS)     $\pm 15$       NON-LIN SPEC:      0.50%  
TARGET MATERIAL:      Aluminum      MAX NON-LIN:      0.34%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):      60  
P/N:      854925-204  
NOTES:  
CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-20

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-20 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-20 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.002	-9.940	-0.31%
-40	-7.949	-7.953	0.02%
-30	-5.924	-5.965	0.20%
-20	-3.925	-3.977	0.26%
-10	-1.953	-1.990	0.18%
0	0.001	-0.002	0.01%
10	1.955	1.986	-0.15%
20	3.929	3.974	-0.22%
30	5.923	5.961	-0.19%
40	7.942	7.949	-0.03%
50	9.983	9.937	0.23%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.31%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-21

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-21 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-21 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-9.944	-0.28%
-40.0	-7.945	-7.957	0.06%
-30.0	-5.924	-5.969	0.22%
-20.0	-3.927	-3.981	0.27%
-10.0	-1.962	-1.993	0.16%
0.0	-0.001	-0.005	0.02%
10.0	1.937	1.982	-0.23%
20.0	3.906	3.970	-0.32%
30.0	5.905	5.958	-0.27%
40.0	7.943	7.946	-0.01%
50.0	10.010	9.934	0.38%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.38%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : R090617DS1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-02-21  
SENSOR SN: S0812221-02-21 +Y  
SENSOR SN: S0812221-02-21 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.002	-9.922	-0.40%
-40.0	-7.940	-7.941	0.01%
-30.0	-5.917	-5.961	0.22%
-20.0	-3.920	-3.980	0.30%
-10.0	-1.957	-2.000	0.22%
0.0	0.001	-0.019	0.10%
10.0	1.938	1.961	-0.12%
20.0	3.893	3.942	-0.24%
30.0	5.874	5.922	-0.24%
40.0	7.888	7.903	-0.07%
50.0	9.928	9.883	0.23%

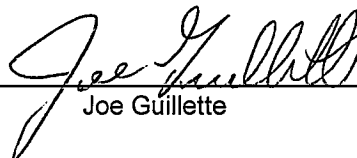
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.40%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.198  
CALIBRATION NULL (Mils): 60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-22

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-22 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-22 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.919	-0.41%
-40	-7.932	-7.937	0.03%
-30	-5.903	-5.955	0.26%
-20	-3.908	-3.973	0.32%
-10	-1.943	-1.991	0.24%
0	-0.001	-0.009	0.04%
10	1.936	1.973	-0.19%
20	3.899	3.956	-0.28%
30	5.888	5.938	-0.25%
40	7.908	7.920	-0.06%
50	9.961	9.902	0.30%

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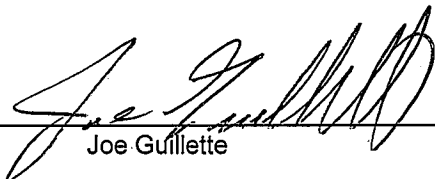
SUPPLY VOLTAGE (VOLTS):	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Aluminum	MAX NON-LIN:	0.41%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 12-Sep-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-22

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-22 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-22 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.000	-9.956	-0.22%
-40	-7.949	-7.963	0.07%
-30	-5.930	-5.970	0.20%
-20	-3.935	-3.978	0.21%
-10	-1.959	-1.985	0.13%
0	0.002	0.008	-0.03%
10	1.960	2.001	-0.20%
20	3.944	3.993	-0.25%
30	5.926	5.986	-0.30%
40	7.979	7.979	0.00%
50	10.049	9.972	0.39%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.39%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-23

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-23 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-23 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.980	-0.11%
-40.0	-7.983	-7.985	0.01%
-30.0	-5.975	-5.990	0.08%
-20.0	-3.974	-3.996	0.11%
-10.0	-1.989	-2.001	0.06%
0.0	0.002	-0.006	0.04%
10.0	1.972	1.989	-0.08%
20.0	3.958	3.983	-0.13%
30.0	5.959	5.978	-0.09%
40.0	7.974	7.973	0.01%
50.0	9.990	9.967	0.11%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.13%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-23

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-23 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-23 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.951	-0.24%
-40.0	-7.945	-7.960	0.08%
-30.0	-5.925	-5.969	0.22%
-20.0	-3.929	-3.979	0.25%
-10.0	-1.964	-1.988	0.12%
0.0	0.001	0.003	-0.01%
10.0	1.948	1.994	-0.23%
20.0	3.920	3.985	-0.32%
30.0	5.923	5.976	-0.26%
40.0	7.966	7.967	0.00%
50.0	10.040	9.958	0.41%

---

SUPPLY VOLTAGE (VOLTS)    ±15  
TARGET MATERIAL:        Alum.  
TARGET CURVATURE:       Flat  
CALIBRATION NULL (Mils):    60  
P/N:                        854925-204  
NOTES:  
CHANNEL #:                 B

NON-LIN SPEC:            0.50%  
MAX NON-LIN:            0.41%  
SCALE (V/Mils):         0.199

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-24

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-24 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-24 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.975	-0.12%
-40.0	-7.967	-7.980	0.06%
-30.0	-5.955	-5.984	0.14%
-20.0	-3.953	-3.988	0.18%
-10.0	-1.981	-1.993	0.06%
0.0	-0.001	0.003	-0.02%
10.0	1.956	1.999	-0.21%
20.0	3.942	3.994	-0.26%
30.0	5.954	5.990	-0.18%
40.0	7.991	7.986	0.03%
50.0	10.047	9.981	0.33%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.33%  
TARGET CURVATURE:        Flat                      SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-24

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-24 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-24 -Y

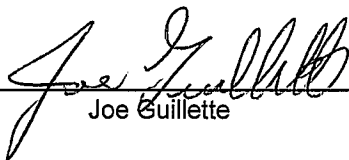
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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.989	-0.06%
-40.0	-7.992	-7.992	0.00%
-30.0	-5.990	-5.996	0.03%
-20.0	-3.986	-3.999	0.07%
-10.0	-1.997	-2.003	0.03%
0.0	0.002	-0.006	0.04%
10.0	1.980	1.990	-0.05%
20.0	3.972	3.987	-0.07%
30.0	5.973	5.983	-0.05%
40.0	7.981	7.979	0.01%
50.0	9.987	9.976	0.06%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.07%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils): 60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-25

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-25 +X

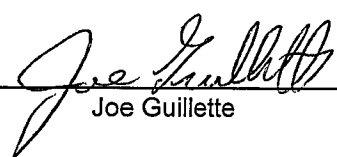
SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-25 -X

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50	-10.000	-9.935	-0.33%
-40	-7.942	-7.948	0.03%
-30	-5.908	-5.961	0.27%
-20	-3.921	-3.974	0.27%
-10	-1.955	-1.987	0.16%
0	0.000	0.000	0.00%
10	1.948	1.986	-0.19%
20	3.922	3.973	-0.26%
30	5.922	5.960	-0.19%
40	7.932	7.947	-0.08%
50	9.997	9.934	0.31%

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
 TARGET MATERIAL:            Aluminum                MAX NON-LIN:            0.33%  
 TARGET CURVATURE:         Flat                        SCALE (V/Mils):         0.199  
 CALIBRATION NULL (Mils):    60  
 P/N:                                854925-204  
 NOTES:  
 CHANNEL #:                        A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-25

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-25 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-25 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.936	-0.32%
-40	-7.935	-7.948	0.06%
-30	-5.901	-5.960	0.29%
-20	-3.916	-3.972	0.28%
-10	-1.954	-1.983	0.15%
0	0.000	0.005	-0.02%
10	1.945	1.993	-0.24%
20	3.919	3.981	-0.31%
30	5.922	5.969	-0.24%
40	7.944	7.958	-0.07%
50	10.029	9.946	0.42%

---


SUPPLY VOLTAGE (VOLTS)    ±15  
TARGET MATERIAL:            Aluminum  
TARGET CURVATURE:         Flat  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NON-LIN SPEC:                0.50%  
MAX NON-LIN:                 0.42%  
SCALE (V/Mils):               0.199

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Gufflette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-26

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-26 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-26 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.926	-0.37%
-40	-7.930	-7.939	0.05%
-30	-5.886	-5.953	0.33%
-20	-3.902	-3.967	0.32%
-10	-1.943	-1.980	0.19%
0	0.001	0.006	-0.03%
10	1.941	1.992	-0.26%
20	3.910	3.979	-0.34%
30	5.912	5.965	-0.27%
40	7.940	7.952	-0.06%
50	10.024	9.938	0.43%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$   
TARGET MATERIAL: Aluminum  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

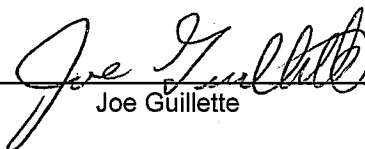
NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.43%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-26

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-26 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-26 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.939	-0.31%
-40	-7.943	-7.950	0.04%
-30	-5.909	-5.962	0.26%
-20	-3.920	-3.973	0.26%
-10	-1.952	-1.984	0.16%
0	0.001	0.004	-0.02%
10	1.950	1.993	-0.21%
20	3.928	3.981	-0.27%
30	5.930	5.970	-0.20%
40	7.948	7.958	-0.05%
50	10.012	9.947	0.33%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                MAX NON-LIN:            0.33%  
TARGET CURVATURE:           Flat                      SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-02-27

KAMAN S/O # :R091120WM1

SENSOR SN: S0812221-02-27 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-27 -X

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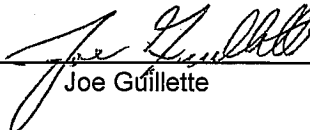
DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.933	-0.33%
-40.0	-7.935	-7.946	0.06%
-30.0	-5.910	-5.959	0.25%
-20.0	-3.915	-3.972	0.29%
-10.0	-1.950	-1.985	0.18%
0.0	0.002	0.002	0.00%
10.0	1.952	1.989	-0.18%
20.0	3.917	3.975	-0.29%
30.0	5.909	5.962	-0.27%
40.0	7.941	7.949	-0.04%
50.0	10.007	9.936	0.35%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                      MAX NON-LIN:            0.35%  
TARGET CURVATURE:           Flat                              SCALE (V/Mils):           0.199  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204  
NOTES:  
CHANNEL #:                        A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-02-27

KAMAN S/O # :R091120WM1

SENSOR SN: S0812221-02-27 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-27 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.950	-0.25%
-40.0	-7.939	-7.958	0.09%
-30.0	-5.916	-5.966	0.25%
-20.0	-3.924	-3.974	0.25%
-10.0	-1.958	-1.982	0.12%
0.0	-0.002	0.010	-0.06%
10.0	1.956	2.002	-0.23%
20.0	3.928	3.994	-0.33%
30.0	5.931	5.987	-0.28%
40.0	7.978	7.979	0.00%
50.0	10.060	9.971	0.45%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                      MAX NON-LIN:            0.45%  
TARGET CURVATURE:           Flat                              SCALE (V/Mils):           0.199  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204  
NOTES:  
CHANNEL #:                            B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-28

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-28 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-28 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.958	-0.21%
-40	-7.960	-7.965	0.02%
-30	-5.928	-5.972	0.22%
-20	-3.937	-3.979	0.21%
-10	-1.962	-1.986	0.12%
0	0.000	0.007	-0.04%
10	1.959	2.000	-0.21%
20	3.945	3.993	-0.24%
30	5.955	5.986	-0.16%
40	7.975	7.979	-0.02%
50	10.031	9.972	0.29%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.29%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-28

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-28 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-28 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.001	-9.977	-0.12%
-40	-7.971	-7.979	0.04%
-30	-5.943	-5.982	0.19%
-20	-3.952	-3.984	0.16%
-10	-1.972	-1.986	0.07%
0	-0.002	0.012	-0.07%
10	1.959	2.010	-0.25%
20	3.965	4.008	-0.21%
30	5.981	6.005	-0.12%
40	8.001	8.003	-0.01%
50	10.066	10.001	0.32%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Aluminum      MAX NON-LIN:      0.32%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette





KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-29

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-29 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-29 -Y

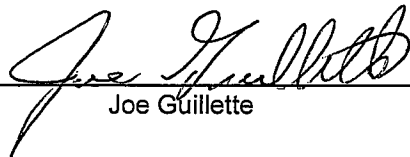
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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.937	-0.32%
-40	-7.938	-7.948	0.05%
-30	-5.908	-5.959	0.26%
-20	-3.912	-3.971	0.29%
-10	-1.954	-1.982	0.14%
0	0.003	0.006	-0.02%
10	1.956	1.995	-0.19%
20	3.927	3.984	-0.28%
30	5.925	5.972	-0.24%
40	7.951	7.961	-0.05%
50	10.020	9.949	0.35%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Aluminum                      MAX NON-LIN:            0.35%  
TARGET CURVATURE:           Flat                              SCALE (V/Mils):           0.199  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204  
NOTES:  
CHANNEL #:                        B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN SALES ORDER NO: R090617DS1  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-02-30  
SENSOR SN: S0812221-02-30 +X  
SENSOR SN: S0812221-02-30 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.925	-0.37%
-40	-7.934	-7.941	0.04%
-30	-5.908	-5.957	0.24%
-20	-3.903	-3.973	0.35%
-10	-1.950	-1.989	0.19%
0	0.000	-0.005	0.02%
10	1.945	1.979	-0.17%
20	3.900	3.964	-0.32%
30	5.892	5.948	-0.28%
40	7.920	7.932	-0.06%
50	9.987	9.916	0.36%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.37%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.198  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 26-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-30

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-30 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-30 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50	-10.000	-9.944	-0.28%
-40	-7.949	-7.955	0.03%
-30	-5.926	-5.966	0.20%
-20	-3.921	-3.977	0.28%
-10	-1.960	-1.988	0.14%
0	0.002	0.001	0.01%
10	1.958	1.989	-0.16%
20	3.923	3.978	-0.28%
30	5.923	5.967	-0.22%
40	7.950	7.956	-0.03%
50	10.006	9.945	0.30%

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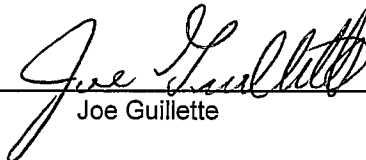
SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Aluminum  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.30%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-31

KAMAN SALES ORDER NO: R090617DS1

SENSOR SN: S0812221-02-31 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-31 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50	-10.004	-10.055	0.25%
-40	-8.029	-8.040	0.06%
-30	-6.042	-6.025	-0.08%
-20	-4.029	-4.010	-0.09%
-10	-2.024	-1.995	-0.14%
0	-0.001	0.020	-0.10%
10	2.021	2.035	-0.07%
20	4.041	4.050	-0.04%
30	6.065	6.065	0.00%
40	8.092	8.080	0.06%
50	10.127	10.095	0.16%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%

TARGET MATERIAL: Aluminum MAX NON-LIN: 0.25%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.201

CALIBRATION NULL (Mils): 60

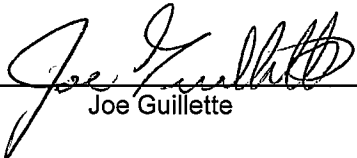
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 11/8/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : R090617DS1  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-02-32  
SENSOR SN: S0812221-02-32 +X  
SENSOR SN: S0812221-02-32 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.956	-0.22%
-40.00	-7.954	-7.964	0.05%
-30.00	-5.936	-5.972	0.18%
-20.00	-3.935	-3.981	0.23%
-10.00	-1.967	-1.989	0.11%
0.00	-0.001	0.003	-0.02%
10.00	1.963	1.995	-0.16%
20.00	3.936	3.986	-0.25%
30.00	5.932	5.978	-0.23%
40.00	7.965	7.970	-0.02%
50.00	10.028	9.962	0.33%

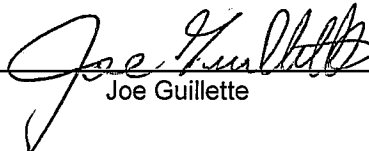
---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.33%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-32

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-32 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-02-32 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.933	-0.33%
-40.00	-7.943	-7.948	0.03%
-30.00	-5.921	-5.963	0.21%
-20.00	-3.921	-3.978	0.29%
-10.00	-1.958	-1.993	0.17%
0.00	-0.001	-0.008	0.03%
10.00	1.949	1.977	-0.14%
20.00	3.919	3.963	-0.22%
30.00	5.896	5.948	-0.26%
40.00	7.921	7.933	-0.06%
50.00	9.974	9.918	0.28%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Aluminum MAX NON-LIN: 0.33%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette





KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 29-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-02-33

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-02-33 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-33 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.993	-0.05%
-40.0	-7.994	-7.994	0.00%
-30.0	-5.993	-5.996	0.01%
-20.0	-3.990	-3.997	0.04%
-10.0	-1.992	-1.999	0.04%
0.0	0.001	-0.001	0.01%
10.0	1.992	1.998	-0.03%
20.0	3.988	3.996	-0.04%
30.0	5.997	5.995	0.01%
40.0	7.999	7.993	0.03%
50.0	9.987	9.992	-0.02%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.05%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200

CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-34

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-34 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-34 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.989	-0.05%
-40.0	-7.985	-7.991	0.03%
-30.0	-5.980	-5.992	0.06%
-20.0	-3.977	-3.994	0.08%
-10.0	-1.991	-1.995	0.02%
0.0	0.002	0.003	-0.01%
10.0	1.985	2.002	-0.08%
20.0	3.980	4.000	-0.10%
30.0	5.977	5.999	-0.11%
40.0	7.999	7.997	0.01%
50.0	10.027	9.996	0.16%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%

TARGET MATERIAL: Alum. MAX NON-LIN: 0.16%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.200

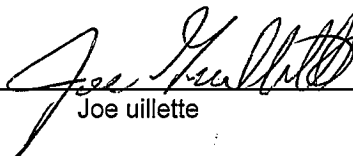
CALIBRATION NULL (Mils): 60

P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe uillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-34

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-34 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-34 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.003	0.02%
-40.0	-7.995	-8.001	0.03%
-30.0	-5.996	-6.000	0.02%
-20.0	-3.992	-3.998	0.03%
-10.0	-2.000	-1.996	-0.02%
0.0	0.002	0.006	-0.02%
10.0	1.994	2.007	-0.07%
20.0	3.996	4.009	-0.06%
30.0	5.996	6.011	-0.07%
40.0	8.016	8.012	0.02%
50.0	10.040	10.014	0.13%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%

TARGET MATERIAL: Alum. MAX NON-LIN: 0.13%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.200

CALIBRATION NULL (Mils): 60

P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe uillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-35

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-35 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-35 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.912	-0.44%
-40.0	-7.916	-7.929	0.07%
-30.0	-5.886	-5.947	0.31%
-20.0	-3.890	-3.965	0.37%
-10.0	-1.933	-1.982	0.25%
0.0	0.002	0.000	0.01%
10.0	1.936	1.982	-0.23%
20.0	3.892	3.964	-0.36%
30.0	5.875	5.947	-0.36%
40.0	7.916	7.929	-0.07%
50.0	10.002	9.911	0.45%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.50%

TARGET MATERIAL: Alum. MAX NON-LIN: 0.45%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.198

CALIBRATION NULL (Mils): 60

P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 27-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-02-35

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-02-35 +Y

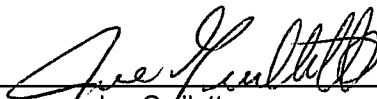
SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-35 -Y

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50.0	-10.000	-9.965	-0.18%
-40.0	-7.969	-7.973	0.02%
-30.0	-5.963	-5.982	0.09%
-20.0	-3.963	-3.990	0.14%
-10.0	-1.983	-1.999	0.08%
0.0	0.001	-0.007	0.04%
10.0	1.973	1.984	-0.06%
20.0	3.955	3.976	-0.10%
30.0	5.941	5.967	-0.13%
40.0	7.951	7.959	-0.04%
50.0	9.976	9.950	0.13%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.18%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Gullette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-02-36

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-02-36 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-02-36 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.944	-0.28%
-40.00	-7.974	-7.961	-0.07%
-30.00	-5.967	-5.978	0.06%
-20.00	-3.965	-3.996	0.15%
-10.00	-1.980	-2.013	0.17%
0.00	-0.001	-0.030	0.15%
10.00	1.966	1.953	0.07%
20.00	3.933	3.936	-0.01%
30.00	5.917	5.918	-0.01%
40.00	7.890	7.901	-0.06%
50.00	9.851	9.884	-0.17%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.28%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.198  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-02-36  
SENSOR SN: S0812221-02-36 +Y  
SENSOR SN: S0812221-02-36 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-9.999	-9.996	-0.01%
-40.00	-7.984	-7.995	0.05%
-30.00	-5.986	-5.994	0.04%
-20.00	-3.986	-3.993	0.03%
-10.00	-1.991	-1.992	0.00%
0.00	0.002	0.009	-0.04%
10.00	1.993	2.010	-0.09%
20.00	3.988	4.012	-0.12%
30.00	6.007	6.013	-0.03%
40.00	8.019	8.014	0.03%
50.00	10.040	10.015	0.13%

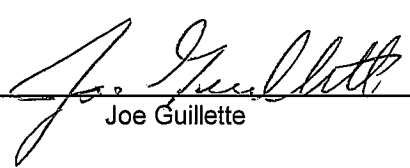
---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.13%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-01

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-01 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-01 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.030	0.15%
-40.0	-8.004	-8.019	0.08%
-30.0	-6.018	-6.008	-0.05%
-20.0	-4.010	-3.998	-0.06%
-10.0	-2.004	-1.987	-0.09%
0.0	0.003	0.024	-0.10%
10.0	2.022	2.035	-0.06%
20.0	4.035	4.045	-0.05%
30.0	6.057	6.056	0.00%
40.0	8.080	8.067	0.06%
50.0	10.102	10.078	0.12%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.15%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-01

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-01 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-01 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-10.046	0.22%
-40.0	-8.046	-8.035	-0.05%
-30.0	-6.056	-6.025	-0.15%
-20.0	-4.039	-4.015	-0.12%
-10.0	-2.016	-2.004	-0.06%
0.0	0.001	0.006	-0.03%
10.0	2.029	2.017	0.06%
20.0	4.044	4.027	0.08%
30.0	6.064	6.038	0.13%
40.0	8.070	8.048	0.11%
50.0	10.021	10.059	-0.19%

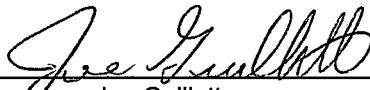
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.22%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.201  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-02

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-02 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-02 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.912	-0.44%
-40.0	-7.921	-7.931	0.05%
-30.0	-5.907	-5.950	0.22%
-20.0	-3.908	-3.969	0.31%
-10.0	-1.941	-1.988	0.24%
0.0	0.001	-0.008	0.04%
10.0	1.955	1.973	-0.09%
20.0	3.907	3.954	-0.23%
30.0	5.892	5.935	-0.21%
40.0	7.908	7.915	-0.04%
50.0	9.929	9.896	0.17%

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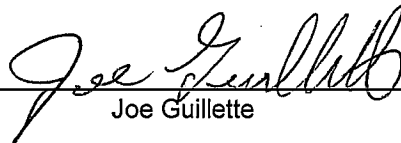
SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.44%  
SCALE (V/Mils): 0.198

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-02

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-02 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-02 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.965	-0.17%
-40.0	-7.952	-7.969	0.09%
-30.0	-5.946	-5.974	0.14%
-20.0	-3.944	-3.978	0.17%
-10.0	-1.965	-1.982	0.09%
0.0	0.001	0.013	-0.06%
10.0	1.982	2.009	-0.14%
20.0	3.960	4.005	-0.22%
30.0	5.966	6.000	-0.17%
40.0	7.996	7.996	0.00%
50.0	10.049	9.992	0.28%

---

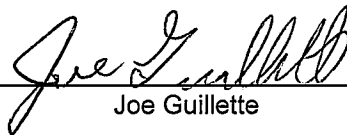
SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.28%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-03

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-03 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-03 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-10.006	0.02%
-40.0	-7.992	-8.003	0.05%
-30.0	-6.001	-6.000	-0.01%
-20.0	-3.997	-3.997	0.00%
-10.0	-1.997	-1.994	-0.02%
0.0	-0.001	0.010	-0.05%
10.0	2.007	2.013	-0.03%
20.0	4.005	4.016	-0.05%
30.0	6.016	6.019	-0.01%
40.0	8.027	8.022	0.02%
50.0	10.040	10.025	0.07%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.07%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-03

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-03 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-03 -Y

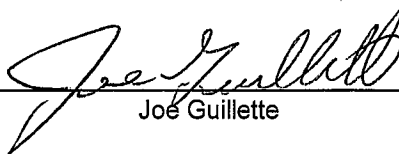
---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.986	-0.07%
-40.0	-7.979	-7.987	0.04%
-30.0	-5.979	-5.988	0.05%
-20.0	-3.974	-3.989	0.08%
-10.0	-1.981	-1.990	0.05%
0.0	0.003	0.009	-0.03%
10.0	1.996	2.007	-0.06%
20.0	3.984	4.006	-0.11%
30.0	5.990	6.005	-0.08%
40.0	8.008	8.004	0.02%
50.0	10.026	10.003	0.11%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.11%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0:200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-03-04  
SENSOR SN: S0812221-03-04 +X  
SENSOR SN: S0812221-03-04 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.007	-10.015	0.04%
-40.0	-8.000	-8.009	0.04%
-30.0	-5.992	-6.003	0.05%
-20.0	-3.991	-3.997	0.03%
-10.0	-1.994	-1.991	-0.02%
0.0	0.000	0.016	-0.08%
10.0	1.996	2.022	-0.13%
20.0	4.006	4.028	-0.11%
30.0	6.024	6.034	-0.05%
40.0	8.040	8.040	0.00%
50.0	10.090	10.046	0.22%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.22%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.201  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Gufflette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 23-Jan-10

CUSTOMER P.O.# : Warranty      SYSTEM SN: S0812221-03-04  
 KAMAN S/O # : R091120WM1      SENSOR SN: S0812221-03-04 +Y  
 SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-03-04 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.997	-0.01%
-40.0	-7.994	-7.997	0.02%
-30.0	-5.988	-5.997	0.04%
-20.0	-3.987	-3.996	0.05%
-10.0	-1.994	-1.996	0.01%
0.0	-0.001	0.005	-0.03%
10.0	1.991	2.005	-0.07%
20.0	3.991	4.005	-0.07%
30.0	5.998	6.006	-0.04%
40.0	8.002	8.006	-0.02%
50.0	10.032	10.007	0.13%

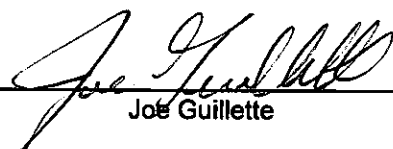
---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.13%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN:



Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : 090617DS1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-03-05  
SENSOR SN: S0812221-03-05 +X  
SENSOR SN: S0812221-03-05 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.004	-9.983	-0.10%
-40.0	-7.990	-7.988	-0.01%
-30.0	-5.997	-5.993	-0.02%
-20.0	-3.977	-3.998	0.11%
-10.0	-1.988	-2.003	0.08%
0.0	0.001	-0.008	0.05%
10.0	1.987	1.987	0.00%
20.0	3.975	3.982	-0.03%
30.0	5.974	5.976	-0.01%
40.0	7.964	7.971	-0.04%
50.0	9.963	9.966	-0.02%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.11%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-05

KAMAN S/O # : 090617DS1

SENSOR SN: S0812221-03-05 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-05 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.001	-9.945	-0.28%
-40.0	-7.946	-7.956	0.05%
-30.0	-5.925	-5.966	0.21%
-20.0	-3.923	-3.977	0.27%
-10.0	-1.955	-1.987	0.16%
0.0	0.000	0.003	-0.01%
10.0	1.955	1.992	-0.19%
20.0	3.926	3.982	-0.28%
30.0	5.929	5.972	-0.21%
40.0	7.950	7.961	-0.06%
50.0	10.020	9.951	0.35%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.35%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN:

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 22-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-06

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-06 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-06 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.003	0.02%
-40.0	-7.995	-8.001	0.03%
-30.0	-5.996	-5.998	0.01%
-20.0	-3.986	-3.995	0.05%
-10.0	-1.991	-1.993	0.01%
0.0	0.001	0.010	-0.05%
10.0	1.997	2.013	-0.08%
20.0	3.999	4.015	-0.08%
30.0	6.013	6.018	-0.03%
40.0	8.018	8.021	-0.01%
50.0	10.051	10.023	0.14%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%

TARGET MATERIAL: Alum. MAX NON-LIN: 0.14%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.200

CALIBRATION NULL (Mils): 60

P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-07

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-07 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-07 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.945	-0.28%
-40.0	-7.967	-7.960	-0.04%
-30.0	-5.953	-5.974	0.11%
-20.0	-3.950	-3.989	0.20%
-10.0	-1.971	-2.003	0.16%
0.0	0.000	-0.018	0.09%
10.0	1.966	1.967	-0.01%
20.0	3.935	3.953	-0.09%
30.0	5.917	5.938	-0.11%
40.0	7.913	7.924	-0.05%
50.0	9.912	9.909	0.01%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.28%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.199

CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-07

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-07 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-07 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.993	-0.04%
-40.0	-7.985	-7.992	0.04%
-30.0	-5.972	-5.992	0.10%
-20.0	-3.983	-3.991	0.04%
-10.0	-1.989	-1.990	0.01%
0.0	0.002	0.010	-0.04%
10.0	1.992	2.011	-0.09%
20.0	3.992	4.012	-0.10%
30.0	5.997	6.012	-0.08%
40.0	8.009	8.013	-0.02%
50.0	10.051	10.014	0.19%

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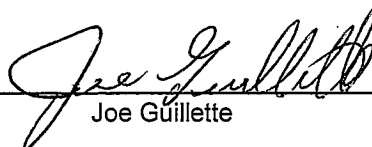
SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.19%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200

CALIBRATION NULL (Mils):    60  
P/N:                                854925-204

NOTES:

CHANNEL #:                        B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-03-08  
SENSOR SN: S0812221-03-08 +Y  
SENSOR SN: S0812221-03-08 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.003	-9.992	-0.06%
-40.0	-7.989	-7.993	0.02%
-30.0	-5.985	-5.993	0.04%
-20.0	-3.981	-3.994	0.07%
-10.0	-1.986	-1.995	0.04%
0.0	0.003	0.004	-0.01%
10.0	1.990	2.004	-0.07%
20.0	3.982	4.003	-0.10%
30.0	5.997	6.002	-0.03%
40.0	8.005	8.002	0.02%
50.0	10.016	10.001	0.08%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Alum.                      MAX NON-LIN:            0.10%  
TARGET CURVATURE:           Flat                        SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                                854925-204  
NOTES:  
CHANNEL #:                        B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-03-09

KAMAN S/O # : R090617DS1

SENSOR SN: S0812221-03-09 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-03-09 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.015	0.07%
-40.0	-8.004	-8.007	0.02%
-30.0	-5.997	-6.000	0.02%
-20.0	-4.001	-3.993	-0.04%
-10.0	-1.995	-1.986	-0.05%
0.0	0.012	0.022	-0.05%
10.0	2.020	2.029	-0.04%
20.0	4.033	4.036	-0.02%
30.0	6.045	6.043	0.01%
40.0	8.051	8.051	0.00%
50.0	10.074	10.058	0.08%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.08%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : R090617DS1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-03-09  
SENSOR SN: S0812221-03-09 +Y  
SENSOR SN: S0812221-03-09 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.001	-10.029	0.14%
-40.0	-8.012	-8.019	0.04%
-30.0	-6.008	-6.010	0.01%
-20.0	-4.013	-4.000	-0.06%
-10.0	-2.006	-1.991	-0.08%
0.0	0.001	0.019	-0.09%
10.0	2.013	2.029	-0.08%
20.0	4.031	4.038	-0.04%
30.0	6.046	6.048	-0.01%
40.0	8.062	8.057	0.02%
50.0	10.097	10.067	0.15%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.15%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.201  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette







KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-05-01  
SENSOR SN: S0812221-05-01 +Y  
SENSOR SN: S0812221-05-01 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.047	0.23%
-40.00	-8.016	-8.032	0.08%
-30.00	-6.027	-6.017	-0.05%
-20.00	-4.021	-4.001	-0.10%
-10.00	-2.010	-1.986	-0.12%
0.00	0.002	0.029	-0.13%
10.00	2.023	2.044	-0.10%
20.00	4.041	4.059	-0.09%
30.00	6.078	6.074	0.02%
40.00	8.106	8.089	0.09%
50.00	10.139	10.104	0.17%

---

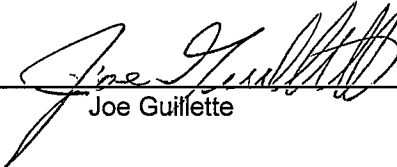
SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL:      Std. Alum.      MAX NON-LIN:      0.23%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.202  
CALIBRATION NULL (Mils):      60

P/N:      854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 29-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-05-02  
SENSOR SN: S0812221-05-02 +X  
SENSOR SN: S0812221-05-02 -X

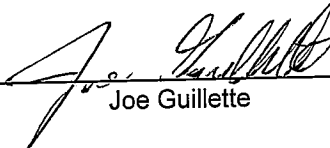
---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-9.999	-10.010	0.05%
-40.00	-8.000	-8.006	0.03%
-30.00	-6.002	-6.002	0.00%
-20.00	-4.002	-3.998	-0.02%
-10.00	-2.001	-1.995	-0.03%
0.00	0.002	0.009	-0.04%
10.00	2.000	2.013	-0.06%
20.00	4.012	4.017	-0.02%
30.00	6.024	6.021	0.02%
40.00	8.021	8.024	-0.02%
50.00	10.046	10.028	0.09%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Std. Alum.      MAX NON-LIN: 0.09%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 29-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-05-02

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-05-02 +Y

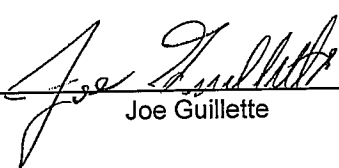
SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-02 -Y

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.003	-10.033	0.15%
-40.00	-8.009	-8.024	0.07%
-30.00	-6.020	-6.015	-0.03%
-20.00	-4.022	-4.005	-0.08%
-10.00	-2.017	-1.996	-0.11%
0.00	0.000	0.013	-0.07%
10.00	2.004	2.023	-0.09%
20.00	4.027	4.032	-0.03%
30.00	6.047	6.041	0.03%
40.00	8.048	8.051	-0.01%
50.00	10.093	10.060	0.16%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.25%
TARGET MATERIAL:	Std. Alum.	MAX NON-LIN:	0.16%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN:

  
 Joe Guillette



KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-03  
 KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-03 +X  
 SYSTEM MODEL NO.: DIT5200-20N      SENSOR SN: S0812221-05-03 -X

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.012	0.06%
-40.00	-7.990	-8.005	0.07%
-30.00	-6.000	-5.998	-0.01%
-20.00	-4.004	-3.991	-0.06%
-10.00	-1.997	-1.984	-0.06%
0.00	0.011	0.023	-0.06%
10.00	2.027	2.030	-0.01%
20.00	4.038	4.036	0.01%
30.00	6.043	6.043	0.00%
40.00	8.041	8.050	-0.05%
50.00	10.080	10.057	0.11%

SUPPLY VOLTAGE (VOLTS):	±15	NON-LIN SPEC:	0.25%
TARGET MATERIAL:	Std. Alum.	MAX NON-LIN:	0.11%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.#: 75-S063182

SYSTEM SN: S0812221-05-03

KAMAN S/O #: S0812221

SENSOR SN: S0812221-05-03 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-03 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.974	-0.13%
-40.00	-7.978	-7.983	0.02%
-30.00	-5.991	-5.991	0.00%
-20.00	-4.007	-4.000	-0.03%
-10.00	-1.997	-2.009	0.06%
0.00	-0.005	-0.018	0.06%
10.00	1.991	1.974	0.09%
20.00	3.984	3.965	0.10%
30.00	5.964	5.956	0.04%
40.00	7.929	7.947	-0.09%
50.00	9.915	9.939	-0.12%

---

SUPPLY VOLTAGE (VOLTS): ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.13%  
SCALE (V/Mils): 0.199

CALIBRATION TECHNICIAN: \_\_\_\_\_

*C. Pecorelli*  
C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-04

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-04 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-04 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.999	0.00%
-40.00	-7.987	-8.000	0.07%
-30.00	-6.006	-6.001	-0.03%
-20.00	-4.020	-4.002	-0.09%
-10.00	-2.011	-2.003	-0.04%
0.00	-0.002	-0.003	0.01%
10.00	2.009	1.996	0.07%
20.00	4.007	3.995	0.06%
30.00	6.006	5.994	0.06%
40.00	7.983	7.993	-0.05%
50.00	9.983	9.992	-0.05%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.09%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

*C. Pecorelli*

C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-05-04  
SENSOR SN: S0812221-05-04 +Y  
SENSOR SN: S0812221-05-04 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.985	-0.07%
-40.00	-7.980	-7.991	0.05%
-30.00	-6.004	-5.996	-0.04%
-20.00	-4.012	-4.002	-0.05%
-10.00	-2.007	-2.008	0.00%
0.00	-0.008	-0.013	0.03%
10.00	2.000	1.981	0.09%
20.00	4.004	3.976	0.14%
30.00	5.974	5.970	0.02%
40.00	7.949	7.964	-0.08%
50.00	9.939	9.959	-0.10%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$   
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.14%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT5200-20N

SYSTEM SN: S0812221-05-05  
SENSOR SN: S0812221-05-05 +X  
SENSOR SN: S0812221-05-05 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.001	0.01%
-40.00	-7.999	-8.000	0.01%
-30.00	-6.015	-6.000	-0.08%
-20.00	-4.014	-3.999	-0.08%
-10.00	-2.007	-1.998	-0.05%
0.00	0.004	0.003	0.01%
10.00	2.033	2.004	0.15%
20.00	4.037	4.005	0.16%
30.00	6.031	6.006	0.13%
40.00	7.998	8.006	-0.04%
50.00	9.965	10.007	-0.21%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.21%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

*C. Pecorelli*

C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-05

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-05 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-05 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.002	0.01%
-40.00	-7.998	-8.001	0.02%
-30.00	-6.006	-6.000	-0.03%
-20.00	-4.010	-3.999	-0.05%
-10.00	-2.002	-1.998	-0.02%
0.00	0.000	0.003	-0.01%
10.00	2.012	2.004	0.04%
20.00	4.024	4.005	0.10%
30.00	6.019	6.006	0.06%
40.00	8.000	8.007	-0.04%
50.00	9.993	10.008	-0.08%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.10%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-06

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-06 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-06 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.971	-0.14%
-40.00	-7.956	-7.974	0.09%
-30.00	-5.961	-5.977	0.08%
-20.00	-3.967	-3.980	0.06%
-10.00	-1.975	-1.983	0.04%
0.00	0.012	0.014	-0.01%
10.00	2.004	2.011	-0.04%
20.00	3.994	4.008	-0.07%
30.00	5.987	6.005	-0.09%
40.00	7.985	8.002	-0.09%
50.00	10.033	9.999	0.17%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Std. Alum.      MAX NON-LIN: 0.17%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

*C. Pecorelli*

C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-06

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-06 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-06 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.953	-0.23%
-40.00	-7.937	-7.960	0.12%
-30.00	-5.939	-5.968	0.14%
-20.00	-3.947	-3.975	0.14%
-10.00	-1.971	-1.983	0.06%
0.00	0.005	0.010	-0.02%
10.00	1.989	2.002	-0.07%
20.00	3.965	3.995	-0.15%
30.00	5.961	5.988	-0.13%
40.00	7.960	7.980	-0.10%
50.00	10.022	9.973	0.25%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.25%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli



KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-07

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-07 +X

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-07 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.040	0.20%
-40.00	-8.015	-8.029	0.07%
-30.00	-6.033	-6.018	-0.08%
-20.00	-4.029	-4.006	-0.11%
-10.00	-2.019	-1.995	-0.12%
0.00	-0.004	0.016	-0.10%
10.00	2.022	2.027	-0.03%
20.00	4.037	4.039	-0.01%
30.00	6.058	6.050	0.04%
40.00	8.067	8.061	0.03%
50.00	10.093	10.072	0.10%

---

SUPPLY VOLTAGE (VOLTS)    ±15  
 TARGET MATERIAL:            Std. Alum.  
 TARGET CURVATURE:         Flat  
 CALIBRATION NULL (Mils):    60  
 P/N:                             854925-204

NON-LIN SPEC:                0.25%  
 MAX NON-LIN:                0.20%  
 SCALE (V/Mils):              0.201

NOTES:

CHANNEL #:                     A

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-07

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-07 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-07 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.004	0.02%
-40.00	-8.000	-8.003	0.02%
-30.00	-6.007	-6.002	-0.02%
-20.00	-4.003	-4.002	-0.01%
-10.00	-2.002	-2.001	-0.01%
0.00	-0.004	0.000	-0.02%
10.00	2.003	2.001	0.01%
20.00	3.999	4.002	-0.01%
30.00	6.006	6.003	0.02%
40.00	8.000	8.003	-0.02%
50.00	10.009	10.004	0.02%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$   
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.02%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-08  
KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-08 +X  
SYSTEM MODEL NO.: DIT5200-20N      SENSOR SN: S0812221-05-08 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.002	0.01%
-40.00	-7.994	-8.002	0.04%
-30.00	-6.007	-6.001	-0.03%
-20.00	-4.000	-4.001	0.00%
-10.00	-2.003	-2.001	-0.01%
0.00	-0.003	0.000	-0.01%
10.00	1.994	2.000	-0.03%
20.00	3.997	4.000	-0.02%
30.00	6.007	6.001	0.03%
40.00	8.000	8.001	-0.01%
50.00	10.006	10.002	0.02%

---

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
TARGET MATERIAL:      Std. Alum.      MAX NON-LIN:      0.04%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):      60  
P/N:      854925-204

NOTES:

CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

*C. Pecorelli*  
C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-08

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-08 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-08 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.000	-9.985	-0.08%
-40.00	-7.989	-7.989	0.00%
-30.00	-5.984	-5.994	0.05%
-20.00	-3.986	-3.998	0.06%
-10.00	-2.002	-2.003	0.00%
0.00	-0.005	-0.007	0.01%
10.00	1.983	1.988	-0.03%
20.00	3.983	3.984	0.00%
30.00	5.980	5.979	0.00%
40.00	7.972	7.975	-0.01%
50.00	9.969	9.970	-0.01%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Std. Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.08%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
C. Pecorelli

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-09  
 KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-09 +X  
 SYSTEM MODEL NO.: DIT5200-20N      SENSOR SN: S0812221-05-09 -X

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.985	-0.07%
-40.00	-7.983	-7.988	0.02%
-30.00	-5.983	-5.991	0.04%
-20.00	-3.983	-3.993	0.05%
-10.00	-1.997	-1.996	0.00%
0.00	0.002	0.001	0.01%
10.00	1.994	1.998	-0.02%
20.00	3.994	3.995	-0.01%
30.00	5.991	5.993	-0.01%
40.00	7.983	7.990	-0.03%
50.00	9.993	9.987	0.03%

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
 TARGET MATERIAL:      Std. Alum.      MAX NON-LIN:      0.07%  
 TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
 CALIBRATION NULL (Mils):      60  
 P/N:      854925-204

NOTES:

CHANNEL #:      A



CALIBRATION TECHNICIAN: \_\_\_\_\_

C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-09

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-09 +Y

SYSTEM MODEL NO.: DIT5200-20N

SENSOR SN: S0812221-05-09 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.971	-0.15%
-40.00	-7.980	-7.978	-0.01%
-30.00	-5.974	-5.985	0.06%
-20.00	-3.984	-3.993	0.04%
-10.00	-1.985	-2.000	0.07%
0.00	0.000	-0.007	0.04%
10.00	1.994	1.986	0.04%
20.00	3.983	3.978	0.02%
30.00	5.967	5.971	-0.02%
40.00	7.956	7.964	-0.04%
50.00	9.944	9.956	-0.06%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Std. Alum. MAX NON-LIN: 0.15%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



C. Pecorelli

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-10

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-10 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-10 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.996	-0.02%
-40.00	-7.993	-7.996	0.01%
-30.00	-5.990	-5.995	0.02%
-20.00	-3.988	-3.994	0.03%
-10.00	-1.992	-1.994	0.01%
0.00	0.002	0.007	-0.02%
10.00	2.002	2.008	-0.03%
20.00	4.002	4.008	-0.03%
30.00	6.003	6.009	-0.03%
40.00	8.008	8.009	-0.01%
50.00	10.022	10.010	0.06%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.06%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60

P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_



Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-10  
KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-10 +Y  
SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-10 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-9.999	-9.986	-0.07%
-40.00	-7.984	-7.988	0.02%
-30.00	-5.982	-5.989	0.04%
-20.00	-3.977	-3.991	0.07%
-10.00	-1.983	-1.993	0.05%
0.00	0.001	0.006	-0.02%
10.00	1.997	2.004	-0.04%
20.00	3.990	4.003	-0.06%
30.00	5.990	6.001	-0.05%
40.00	7.997	7.999	-0.01%
50.00	10.014	9.998	0.08%

---

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
TARGET MATERIAL:      Alum.      MAX NON-LIN:      0.08%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):    60  
P/N:      854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 7-Jul-09

CUSTOMER P.O.#: 75-S063182

SYSTEM SN: S0812221-05-11

KAMAN S/O #: S0812221

SENSOR SN: S0812221-05-11 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-11 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.042	0.21%
-40.00	-8.021	-8.029	0.04%
-30.00	-6.026	-6.017	-0.05%
-20.00	-4.019	-4.004	-0.07%
-10.00	-2.013	-1.992	-0.11%
0.00	0.000	0.021	-0.10%
10.00	2.017	2.033	-0.08%
20.00	4.035	4.046	-0.05%
30.00	6.060	6.058	0.01%
40.00	8.085	8.071	0.07%
50.00	10.111	10.083	0.14%

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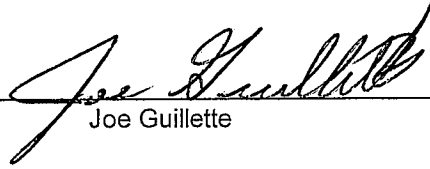
SUPPLY VOLTAGE (VOLTS):  $\pm 15$  NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.21%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.201

CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-12  
KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-12 +X  
SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-12 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-9.986	-0.08%
-40.00	-7.993	-7.990	-0.01%
-30.00	-5.994	-5.995	0.00%
-20.00	-3.990	-3.999	0.05%
-10.00	-1.992	-2.004	0.06%
0.00	0.000	-0.008	0.04%
10.00	1.993	1.988	0.03%
20.00	3.979	3.983	-0.02%
30.00	5.975	5.979	-0.02%
40.00	7.974	7.974	0.00%
50.00	9.962	9.970	-0.04%

---

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
TARGET MATERIAL:      Alum.      MAX NON-LIN:      0.08%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):    60  
P/N:      854925-204

NOTES:

CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 7-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-12  
KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-12 +Y  
SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-12 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.998	-0.01%
-40.00	-7.987	-7.997	0.05%
-30.00	-5.996	-5.997	0.00%
-20.00	-3.993	-3.996	0.01%
-10.00	-1.994	-1.995	0.00%
0.00	0.000	0.006	-0.03%
10.00	2.001	2.007	-0.03%
20.00	3.995	4.008	-0.06%
30.00	6.000	6.009	-0.04%
40.00	8.015	8.009	0.03%
50.00	10.025	10.010	0.07%

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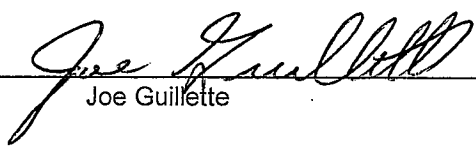
SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
TARGET MATERIAL:      Alum.      MAX NON-LIN:      0.07%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):    60  
P/N:      854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-13

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-13 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-13 -X

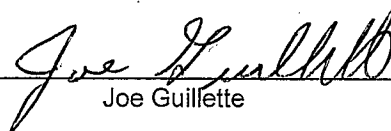
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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.003	-9.983	-0.10%
-40.00	-7.987	-7.988	0.01%
-30.00	-5.990	-5.993	0.02%
-20.00	-3.986	-3.999	0.06%
-10.00	-1.991	-2.004	0.06%
0.00	-0.002	-0.009	0.03%
10.00	1.982	1.986	-0.02%
20.00	3.975	3.981	-0.03%
30.00	5.975	5.975	0.00%
40.00	7.970	7.970	0.00%
50.00	9.959	9.965	-0.03%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.10%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-13

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-13 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-13 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-9.999	-10.020	0.11%
-40.00	-8.001	-8.013	0.06%
-30.00	-6.011	-6.005	-0.03%
-20.00	-4.006	-3.998	-0.04%
-10.00	-2.001	-1.991	-0.05%
0.00	0.004	0.017	-0.06%
10.00	2.007	2.024	-0.09%
20.00	4.022	4.032	-0.05%
30.00	6.039	6.039	0.00%
40.00	8.055	8.047	0.04%
50.00	10.077	10.054	0.11%

---

SUPPLY VOLTAGE (VOLTS):  $\pm 15$  NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.11%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.201  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-14

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-14 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-14 -X

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-10.021	0.10%
-40.00	-8.011	-8.016	0.03%
-30.00	-6.022	-6.011	-0.05%
-20.00	-4.016	-4.006	-0.05%
-10.00	-2.009	-2.001	-0.04%
0.00	-0.003	0.004	-0.04%
10.00	2.003	2.009	-0.03%
20.00	4.015	4.014	0.00%
30.00	6.028	6.020	0.04%
40.00	8.029	8.025	0.02%
50.00	10.034	10.030	0.02%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.25%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.10%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

*Joe Guillette*  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-14

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-14 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-14 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.005	-10.041	0.18%
-40.00	-8.028	-8.031	0.01%
-30.00	-6.039	-6.021	-0.09%
-20.00	-4.031	-4.011	-0.10%
-10.00	-2.015	-2.001	-0.07%
0.00	0.000	0.009	-0.04%
10.00	2.015	2.018	-0.02%
20.00	4.024	4.028	-0.02%
30.00	6.057	6.038	0.09%
40.00	8.061	8.048	0.07%
50.00	10.055	10.058	-0.01%

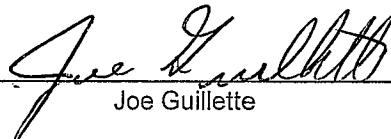
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.18%  
TARGET CURVATURE:        Flat                      SCALE (V/Mils):        0.201  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-15  
SENSOR SN: S0812221-05-15 +X  
SENSOR SN: S0812221-05-15 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-9.987	-0.07%
-40.00	-7.995	-7.992	-0.02%
-30.00	-5.995	-5.996	0.00%
-20.00	-3.996	-4.000	0.02%
-10.00	-1.996	-2.005	0.04%
0.00	0.001	-0.009	0.05%
10.00	1.991	1.986	0.02%
20.00	3.981	3.982	0.00%
30.00	5.982	5.977	0.02%
40.00	7.974	7.973	0.00%
50.00	9.952	9.969	-0.08%

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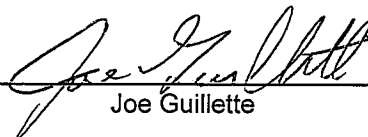
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.08%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 8-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-05-15

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-05-15 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-15 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.005	-10.013	0.04%
-40.00	-8.004	-8.010	0.03%
-30.00	-6.009	-6.007	-0.01%
-20.00	-4.010	-4.004	-0.03%
-10.00	-2.006	-2.001	-0.03%
0.00	-0.002	0.002	-0.02%
10.00	2.001	2.006	-0.02%
20.00	4.001	4.009	-0.04%
30.00	6.012	6.012	0.00%
40.00	8.025	8.015	0.05%
50.00	10.023	10.018	0.02%

---

SUPPLY VOLTAGE (VOLTS): ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.05%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-16

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-16 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-16 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.000	-9.993	-0.04%
-40.00	-7.998	-7.995	-0.01%
-30.00	-6.000	-5.998	-0.01%
-20.00	-3.997	-4.001	0.02%
-10.00	-1.996	-2.004	0.04%
0.00	-0.001	-0.006	0.03%
10.00	1.991	1.991	0.00%
20.00	3.990	3.988	0.01%
30.00	5.988	5.985	0.01%
40.00	7.982	7.982	0.00%
50.00	9.970	9.980	-0.05%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.05%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-16

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-16 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-16 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.012	0.06%
-40.00	-8.000	-8.008	0.04%
-30.00	-6.008	-6.004	-0.02%
-20.00	-4.004	-3.999	-0.02%
-10.00	-2.000	-1.995	-0.02%
0.00	0.000	0.009	-0.04%
10.00	2.001	2.013	-0.06%
20.00	4.013	4.017	-0.02%
30.00	6.024	6.021	0.01%
40.00	8.029	8.025	0.02%
50.00	10.041	10.029	0.06%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-17

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-17 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-17 -X

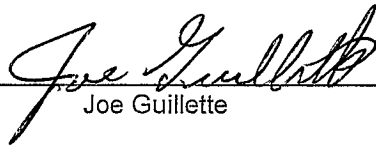
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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES VOLTS	FITNON-LINEARITY % FSO
-50.00	-10.002	-9.977	-0.13%
-40.00	-7.989	-7.984	-0.02%
-30.00	-5.990	-5.991	0.01%
-20.00	-3.983	-3.999	0.08%
-10.00	-1.989	-2.006	0.08%
0.00	0.000	-0.013	0.07%
10.00	1.983	1.980	0.02%
20.00	3.974	3.973	0.01%
30.00	5.964	5.965	-0.01%
40.00	7.953	7.958	-0.03%
50.00	9.936	9.951	-0.07%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                      MAX NON-LIN:            0.13%  
TARGET CURVATURE:        Flat                        SCALE (V/Mils):         0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-17

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-17 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-17 -Y

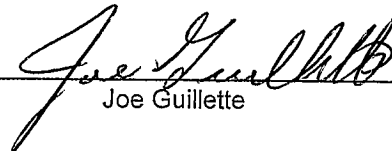
---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.010	0.05%
-40.00	-7.998	-8.006	0.04%
-30.00	-6.004	-6.002	-0.01%
-20.00	-3.999	-3.997	-0.01%
-10.00	-1.997	-1.993	-0.02%
0.00	0.001	0.011	-0.05%
10.00	2.001	2.015	-0.07%
20.00	4.013	4.019	-0.03%
30.00	6.024	6.023	0.01%
40.00	8.031	8.027	0.02%
50.00	10.044	10.031	0.07%

---

SUPPLY VOLTAGE (VOLTS):	±15	NON-LIN SPEC:	0.25%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.07%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-18

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-18 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-18 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.000	-10.026	0.13%
-40.00	-8.013	-8.018	0.02%
-30.00	-6.020	-6.009	-0.05%
-20.00	-4.011	-4.001	-0.05%
-10.00	-2.004	-1.993	-0.06%
0.00	0.004	0.016	-0.06%
10.00	2.013	2.024	-0.06%
20.00	4.033	4.032	0.00%
30.00	6.047	6.041	0.03%
40.00	8.057	8.049	0.04%
50.00	10.067	10.058	0.05%

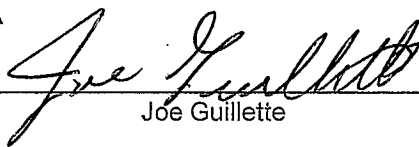
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.13%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.201  
CALIBRATION NULL (Mils):   60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-18

KAMAN S/O #: S0812221

SENSOR SN: S0812221-05-18 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-18 -Y


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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-10.025	0.13%
-40.00	-8.014	-8.018	0.02%
-30.00	-6.021	-6.011	-0.05%
-20.00	-4.017	-4.004	-0.07%
-10.00	-2.008	-1.997	-0.06%
0.00	0.002	0.011	-0.04%
10.00	2.009	2.018	-0.04%
20.00	4.028	4.025	0.02%
30.00	6.041	6.032	0.05%
40.00	8.045	8.039	0.03%
50.00	10.051	10.046	0.02%

---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                      MAX NON-LIN:            0.13%  
TARGET CURVATURE:        Flat                        SCALE (V/Mils):        0.201  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182      SYSTEM SN: S0812221-05-19  
KAMAN S/O # : S0812221      SENSOR SN: S0812221-05-19 +X  
SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-19 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.004	-10.013	0.05%
-40.00	-8.007	-8.010	0.01%
-30.00	-6.011	-6.006	-0.03%
-20.00	-4.004	-4.002	-0.01%
-10.00	-1.999	-1.998	0.00%
0.00	0.000	0.006	-0.03%
10.00	2.003	2.010	-0.03%
20.00	4.011	4.014	-0.01%
30.00	6.019	6.017	0.01%
40.00	8.026	8.021	0.02%
50.00	10.030	10.025	0.02%

---

SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.25%  
TARGET MATERIAL:      Alum.      MAX NON-LIN:      0.05%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):    60  
P/N:      854925-204

NOTES:

CHANNEL #:      A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-19

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-19 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-19 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.990	-0.05%
-40.00	-7.997	-7.993	-0.02%
-30.00	-5.997	-5.996	-0.01%
-20.00	-3.990	-3.999	0.04%
-10.00	-1.992	-2.002	0.05%
0.00	0.000	-0.005	0.03%
10.00	1.991	1.992	0.00%
20.00	3.990	3.989	0.01%
30.00	5.987	5.986	0.01%
40.00	7.981	7.983	-0.01%
50.00	9.971	9.980	-0.04%

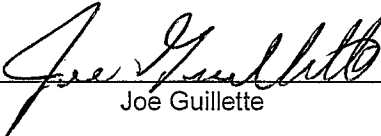
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SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.05%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-20  
SENSOR SN: S0812221-05-20 +X  
SENSOR SN: S0812221-05-20 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.006	-9.981	-0.12%
-40.00	-7.992	-7.987	-0.02%
-30.00	-5.988	-5.993	0.02%
-20.00	-3.984	-3.998	0.07%
-10.00	-1.993	-2.004	0.06%
0.00	0.000	-0.010	0.05%
10.00	1.994	1.985	0.05%
20.00	3.979	3.979	0.00%
30.00	5.973	5.973	0.00%
40.00	7.963	7.967	-0.02%
50.00	9.946	9.962	-0.08%

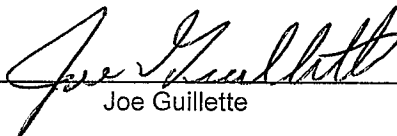
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.12%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-20

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-20 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-20 -Y

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.00	-10.003	-9.992	-0.06%
-40.00	-7.999	-7.994	-0.02%
-30.00	-5.995	-5.997	0.01%
-20.00	-3.990	-3.999	0.05%
-10.00	-1.996	-2.002	0.03%
0.00	0.001	-0.004	0.03%
10.00	1.998	1.993	0.02%
20.00	3.989	3.991	-0.01%
30.00	5.990	5.988	0.01%
40.00	7.988	7.986	0.01%
50.00	9.971	9.983	-0.06%

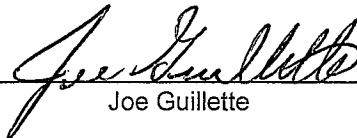
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SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.25%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.06%  
TARGET CURVATURE:        Flat                      SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 8-Jan-10

CUSTOMER P.O.# : Warranty      SYSTEM SN: S0812221-05-21  
 KAMAN S/O # : R091120WM1      SENSOR SN: S0812221-05-21 +X  
 SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-21 -X

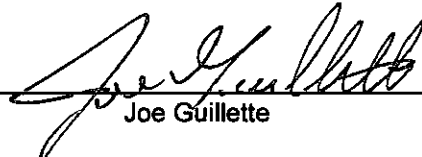
DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-10.032	0.15%
-40.00	-8.003	-8.020	0.08%
-30.00	-6.004	-6.008	0.02%
-20.00	-4.004	-3.996	-0.04%
-10.00	-2.002	-1.984	-0.09%
0.00	0.004	0.028	-0.12%
10.00	2.011	2.041	-0.15%
20.00	4.026	4.053	-0.13%
30.00	6.055	6.065	-0.05%
40.00	8.098	8.077	0.10%
50.00	10.134	10.089	0.22%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.22%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 8-Jan-10

CUSTOMER P.O.# : Warranty      SYSTEM SN: S0812221-05-21  
KAMAN S/O # : R091120WM1      SENSOR SN: S0812221-05-21 +Y  
SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-05-21 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.003	-10.023	0.10%
-40.00	-8.032	-8.019	-0.07%
-30.00	-6.030	-6.015	-0.08%
-20.00	-4.015	-4.010	-0.02%
-10.00	-2.006	-2.006	0.00%
0.00	0.000	-0.001	0.01%
10.00	2.007	2.003	0.02%
20.00	4.012	4.007	0.02%
30.00	6.023	6.012	0.06%
40.00	8.030	8.016	0.07%
50.00	9.998	10.020	-0.11%

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SUPPLY VOLTAGE (VOLTS)    ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL:      Alum.      MAX NON-LIN:      0.11%  
TARGET CURVATURE:      Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils):    60  
P/N:      854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-22  
SENSOR SN: S0812221-05-22 +Y  
SENSOR SN: S0812221-05-22 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-10.035	0.16%
-40.00	-8.006	-8.023	0.09%
-30.00	-6.013	-6.012	-0.01%
-20.00	-4.010	-4.000	-0.05%
-10.00	-2.008	-1.988	-0.10%
0.00	-0.001	0.023	-0.12%
10.00	2.008	2.035	-0.13%
20.00	4.024	4.046	-0.11%
30.00	6.057	6.058	0.00%
40.00	8.084	8.070	0.07%
50.00	10.122	10.081	0.20%

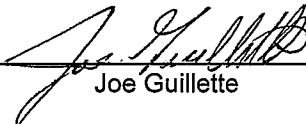
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SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.20%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.201  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillet



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-23  
SENSOR SN: S0812221-05-23 +X  
SENSOR SN: S0812221-05-23 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-9.999	-0.01%
-40.00	-7.991	-7.998	0.04%
-30.00	-5.993	-5.997	0.02%
-20.00	-3.990	-3.996	0.03%
-10.00	-1.995	-1.995	0.00%
0.00	0.001	0.006	-0.02%
10.00	1.991	2.006	-0.08%
20.00	3.992	4.007	-0.08%
30.00	6.007	6.008	-0.01%
40.00	8.015	8.009	0.03%
50.00	10.025	10.010	0.07%

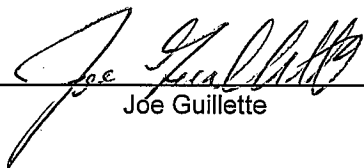
---

SUPPLY VOLTAGE (VOLTS)     $\pm 15$                   NON-LIN SPEC:                  0.50%  
TARGET MATERIAL:                  Alum.                  MAX NON-LIN:                  0.08%  
TARGET CURVATURE:                  Flat                  SCALE (V/Mils):                  0.200  
CALIBRATION NULL (Mils):                  60  
P/N:    854925-204

NOTES:

CHANNEL #:    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-05-23

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-05-23 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-23 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-9.998	-10.046	0.24%
-40.00	-8.012	-8.031	0.09%
-30.00	-6.026	-6.016	-0.05%
-20.00	-4.021	-4.001	-0.10%
-10.00	-2.007	-1.986	-0.10%
0.00	-0.002	0.029	-0.15%
10.00	2.014	2.044	-0.15%
20.00	4.038	4.059	-0.10%
30.00	6.078	6.074	0.02%
40.00	8.109	8.089	0.10%
50.00	10.144	10.104	0.20%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.24%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.201  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-24

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-24 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-24 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.987	-0.07%
-40.00	-7.991	-7.991	0.00%
-30.00	-5.993	-5.995	0.01%
-20.00	-3.995	-3.999	0.02%
-10.00	-1.995	-2.003	0.04%
0.00	-0.001	-0.007	0.03%
10.00	1.990	1.989	0.00%
20.00	3.987	3.985	0.01%
30.00	5.986	5.981	0.03%
40.00	7.976	7.977	0.00%
50.00	9.960	9.973	-0.06%

---


SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.25%  
MAX NON-LIN: 0.07%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-24

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-24 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-24 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.995	-0.02%
-40.00	-7.992	-7.996	0.02%
-30.00	-5.996	-5.997	0.01%
-20.00	-3.998	-3.998	0.00%
-10.00	-1.998	-1.999	0.00%
0.00	0.000	0.000	0.00%
10.00	1.996	2.000	-0.02%
20.00	3.998	3.999	0.00%
30.00	6.004	5.998	0.03%
40.00	7.997	7.997	0.00%
50.00	9.993	9.996	-0.02%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.03%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-25

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-25 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-25 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.002	-9.991	-0.06%
-40.00	-7.992	-7.993	0.01%
-30.00	-5.992	-5.996	0.02%
-20.00	-3.993	-3.998	0.03%
-10.00	-1.994	-2.001	0.03%
0.00	0.000	-0.003	0.02%
10.00	1.990	1.995	-0.02%
20.00	3.990	3.992	-0.01%
30.00	5.992	5.990	0.01%
40.00	7.988	7.987	0.00%
50.00	9.980	9.985	-0.02%

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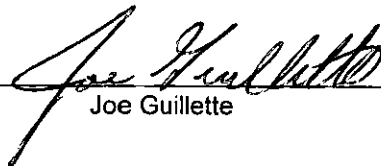
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.25%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.06%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-05-25

KAMAN S/O # : S0812221

SENSOR SN: S0812221-05-25 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-05-25 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.000	-9.954	-0.23%
-40.00	-7.976	-7.967	-0.04%
-30.00	-5.968	-5.980	0.06%
-20.00	-3.968	-3.993	0.13%
-10.00	-1.979	-2.006	0.13%
0.00	0.001	-0.019	0.10%
10.00	1.975	1.969	0.03%
20.00	3.953	3.956	-0.01%
30.00	5.941	5.943	-0.01%
40.00	7.920	7.930	-0.05%
50.00	9.896	9.917	-0.11%

---

SUPPLY VOLTAGE (VOLTS)  $\pm 15$  NON-LIN SPEC: 0.25%  
TARGET MATERIAL: Alum. MAX NON-LIN: 0.23%  
TARGET CURVATURE: Flat SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 16-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-26  
SENSOR SN: S0812221-05-26 +X  
SENSOR SN: S0812221-05-26 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-10.029	0.14%
-40.00	-8.008	-8.019	0.06%
-30.00	-6.018	-6.009	-0.04%
-20.00	-4.007	-3.999	-0.04%
-10.00	-2.004	-1.989	-0.07%
0.00	0.001	0.021	-0.10%
10.00	2.014	2.031	-0.08%
20.00	4.035	4.041	-0.03%
30.00	6.053	6.051	0.01%
40.00	8.068	8.061	0.04%
50.00	10.095	10.071	0.12%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.14%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 16-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-05-26  
SENSOR SN: S0812221-05-26 +Y  
SENSOR SN: S0812221-05-26 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.00	-10.001	-10.009	0.04%
-40.00	-8.006	-8.007	0.00%
-30.00	-6.012	-6.004	-0.04%
-20.00	-4.003	-4.002	-0.01%
-10.00	-2.001	-1.999	-0.01%
0.00	0.000	0.003	-0.02%
10.00	2.001	2.006	-0.02%
20.00	4.012	4.008	0.02%
30.00	6.018	6.010	0.04%
40.00	8.015	8.013	0.01%
50.00	10.011	10.015	-0.02%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.04%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-01

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-01 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-01 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.985	-0.07%
-40.0	-7.984	-7.988	0.02%
-30.0	-5.975	-5.990	0.08%
-20.0	-3.979	-3.993	0.07%
-10.0	-1.984	-1.996	0.06%
0.0	0.000	0.002	-0.01%
10.0	1.983	1.999	-0.08%
20.0	3.972	3.997	-0.12%
30.0	5.979	5.994	-0.08%
40.0	7.993	7.992	0.01%
50.0	10.016	9.989	0.13%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.13%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-01

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-01 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-01 -Y

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.005	-10.011	0.03%
-40.0	-8.009	-8.008	-0.01%
-30.0	-6.003	-6.004	0.01%
-20.0	-3.998	-4.001	0.01%
-10.0	-1.998	-1.997	0.00%
0.0	0.004	0.006	-0.01%
10.0	1.998	2.009	-0.06%
20.0	4.005	4.013	-0.04%
30.0	6.017	6.016	0.01%
40.0	8.024	8.019	0.02%
50.0	10.030	10.023	0.04%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.06%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-02

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-02 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-02 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.993	-0.04%
-40.0	-7.995	-7.994	0.00%
-30.0	-5.993	-5.996	0.01%
-20.0	-3.992	-3.997	0.03%
-10.0	-1.991	-1.999	0.04%
0.0	0.003	0.000	0.01%
10.0	1.997	1.999	-0.01%
20.0	3.986	3.997	-0.06%
30.0	5.995	5.996	0.00%
40.0	7.996	7.995	0.01%
50.0	9.995	9.993	0.01%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.06%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-02

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-02 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-02 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.996	-0.02%
-40.0	-7.992	-7.996	0.02%
-30.0	-5.990	-5.996	0.03%
-20.0	-3.992	-3.996	0.02%
-10.0	-1.989	-1.996	0.04%
0.0	-0.002	0.004	-0.03%
10.0	1.995	2.004	-0.05%
20.0	3.989	4.004	-0.08%
30.0	5.999	6.004	-0.03%
40.0	8.008	8.004	0.02%
50.0	10.018	10.004	0.07%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.08%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-03

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-03 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-03 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.991	-0.04%
-40.0	-7.990	-7.994	0.02%
-30.0	-5.990	-5.996	0.03%
-20.0	-3.993	-3.998	0.03%
-10.0	-1.994	-2.001	0.03%
0.0	-0.003	-0.003	0.00%
10.0	1.991	1.995	-0.02%
20.0	3.979	3.993	-0.07%
30.0	5.983	5.990	-0.04%
40.0	7.989	7.988	0.00%
50.0	9.997	9.986	0.06%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.07%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN:

  
Joe Guilletto

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 23-Jul-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-03  
SENSOR SN: S0812221-06-03 +Y  
SENSOR SN: S0812221-06-03 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.003	-9.975	-0.14%
-40.0	-7.991	-7.982	-0.05%
-30.0	-5.981	-5.989	0.04%
-20.0	-3.980	-3.996	0.08%
-10.0	-1.980	-2.003	0.11%
0.0	0.006	-0.010	0.08%
10.0	1.989	1.983	0.03%
20.0	3.966	3.976	-0.05%
30.0	5.963	5.969	-0.03%
40.0	7.957	7.962	-0.03%
50.0	9.946	9.955	-0.05%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.14%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-04

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-04 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-04 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.990	-0.05%
-40.0	-7.988	-7.992	0.02%
-30.0	-5.984	-5.993	0.05%
-20.0	-3.985	-3.995	0.05%
-10.0	-1.993	-1.996	0.02%
0.0	0.002	0.002	0.00%
10.0	1.991	2.000	-0.05%
20.0	3.987	3.999	-0.06%
30.0	5.989	5.997	-0.04%
40.0	7.991	7.996	-0.02%
50.0	10.012	9.994	0.09%

---

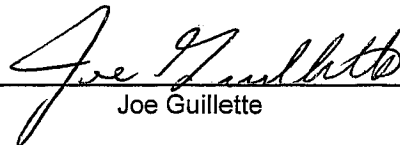
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-04

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-04 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-04 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES	FITNON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.003	0.02%
-40.0	-7.994	-8.000	0.03%
-30.0	-5.985	-5.997	0.06%
-20.0	-3.986	-3.993	0.04%
-10.0	-1.991	-1.990	0.00%
0.0	0.004	0.013	-0.05%
10.0	1.994	2.017	-0.11%
20.0	3.998	4.020	-0.11%
30.0	6.012	6.023	-0.06%
40.0	8.028	8.026	0.01%
50.0	10.066	10.030	0.18%

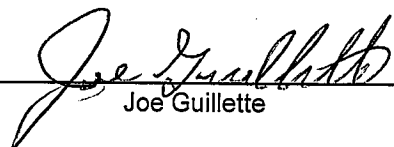
---

SUPPLY VOLTAGE (VOLTS)    ±15                      NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                      MAX NON-LIN:            0.18%  
TARGET CURVATURE:        Flat                        SCALE (V/Mils):         0.200  
CALIBRATION NULL (Mils):   60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-05

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-05 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-05 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.014	0.07%
-40.0	-8.003	-8.008	0.03%
-30.0	-5.995	-6.002	0.04%
-20.0	-3.998	-3.997	-0.01%
-10.0	-2.010	-1.991	-0.09%
0.0	0.000	0.015	-0.07%
10.0	2.010	2.020	-0.05%
20.0	4.022	4.026	-0.02%
30.0	6.032	6.032	0.00%
40.0	8.044	8.037	0.03%
50.0	10.059	10.043	0.08%

---

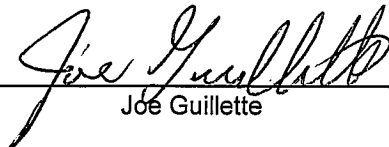
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-05

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-05 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-05 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.915	-0.43%
-40.0	-7.947	-7.936	-0.06%
-30.0	-5.910	-5.957	0.23%
-20.0	-3.916	-3.977	0.31%
-10.0	-1.960	-1.998	0.19%
0.0	0.000	-0.019	0.10%
10.0	1.955	1.960	-0.03%
20.0	3.914	3.940	-0.13%
30.0	5.888	5.919	-0.16%
40.0	7.880	7.898	-0.09%
50.0	9.888	9.877	0.05%

---

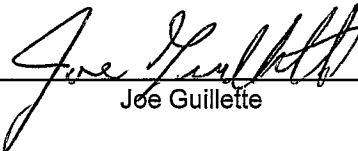
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.43%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty  
 KAMAN S/O # : R091120WM1  
 SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-06  
 SENSOR SN: S0812221-06-06 +X  
 SENSOR SN: S0812221-06-06 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.019	0.10%
-40.0	-8.010	-8.014	0.02%
-30.0	-6.012	-6.008	-0.02%
-20.0	-4.010	-4.003	-0.04%
-10.0	-2.007	-1.997	-0.05%
0.0	0.003	0.009	-0.03%
10.0	1.999	2.014	-0.08%
20.0	4.016	4.020	-0.02%
30.0	6.034	6.025	0.04%
40.0	8.032	8.031	0.01%
50.0	10.049	10.036	0.06%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.10%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-06  
SENSOR SN: S0812221-06-06 +Y  
SENSOR SN: S0812221-06-06 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.954	-0.23%
-40.0	-7.951	-7.963	0.06%
-30.0	-5.932	-5.972	0.20%
-20.0	-3.940	-3.980	0.20%
-10.0	-1.967	-1.989	0.11%
0.0	0.001	0.003	-0.01%
10.0	1.956	1.994	-0.19%
20.0	3.939	3.985	-0.23%
30.0	5.944	5.977	-0.16%
40.0	7.954	7.968	-0.07%
50.0	10.024	9.959	0.32%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.32%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-07

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-07 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-07 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-9.999	-9.964	-0.18%
-40.0	-7.976	-7.973	-0.01%
-30.0	-5.967	-5.983	0.08%
-20.0	-3.964	-3.992	0.14%
-10.0	-1.984	-2.002	0.09%
0.0	-0.002	-0.011	0.05%
10.0	1.977	1.980	-0.01%
20.0	3.954	3.970	-0.08%
30.0	5.949	5.961	-0.06%
40.0	7.942	7.951	-0.05%
50.0	9.949	9.942	0.04%

---

SUPPLY VOLTAGE (VOLTS)     $\pm 15$                       NON-LIN SPEC:                      0.50%  
TARGET MATERIAL:                      Alum.                      MAX NON-LIN:                      0.18%  
TARGET CURVATURE:                      Flat                      SCALE (V/Mils):                      0.199  
CALIBRATION NULL (Mils):                      60  
P/N:    854925-204

NOTES:

CHANNEL #:    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/08

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-07

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-07 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-07 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.002	-10.000	-0.01%
-40.0	-7.995	-7.999	0.02%
-30.0	-5.993	-5.998	0.02%
-20.0	-3.990	-3.997	0.03%
-10.0	-1.998	-1.995	-0.01%
0.0	0.003	0.006	-0.01%
10.0	1.998	2.007	-0.05%
20.0	3.999	4.009	-0.05%
30.0	6.006	6.010	-0.02%
40.0	8.011	8.011	0.00%
50.0	10.027	10.012	0.07%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.07%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-08

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-08 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-08 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-10.016	0.08%
-40.0	-7.998	-8.010	0.06%
-30.0	-6.001	-6.003	0.01%
-20.0	-3.998	-3.997	0.00%
-10.0	-2.000	-1.991	-0.05%
0.0	0.001	0.016	-0.07%
10.0	2.002	2.022	-0.10%
20.0	4.009	4.029	-0.10%
30.0	6.031	6.035	-0.02%
40.0	8.047	8.042	0.03%
50.0	10.082	10.048	0.17%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.17%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-08

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-08 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-08 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.982	-0.10%
-40.0	-7.990	-7.987	-0.01%
-30.0	-5.983	-5.992	0.04%
-20.0	-3.981	-3.997	0.08%
-10.0	-1.988	-2.001	0.07%
0.0	0.001	-0.006	0.04%
10.0	1.982	1.989	-0.03%
20.0	3.973	3.984	-0.06%
30.0	5.975	5.979	-0.02%
40.0	7.970	7.975	-0.02%
50.0	9.974	9.970	0.02%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.10%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-09

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-09 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-09 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.005	-9.969	-0.18%
-40.0	-7.981	-7.978	-0.01%
-30.0	-5.974	-5.987	0.06%
-20.0	-3.975	-3.996	0.10%
-10.0	-1.984	-2.004	0.10%
0.0	0.000	-0.013	0.07%
10.0	1.978	1.978	0.00%
20.0	3.959	3.969	-0.05%
30.0	5.956	5.961	-0.02%
40.0	7.942	7.952	-0.05%
50.0	9.940	9.943	-0.02%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.18%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guiffette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-09

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-09 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-09 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-9.999	-9.986	-0.07%
-40.0	-7.986	-7.988	0.01%
-30.0	-5.985	-5.991	0.03%
-20.0	-3.984	-3.994	0.05%
-10.0	-1.990	-1.997	0.04%
0.0	0.003	0.000	0.01%
10.0	1.991	1.997	-0.03%
20.0	3.983	3.994	-0.06%
30.0	5.989	5.992	-0.01%
40.0	7.986	7.989	-0.01%
50.0	9.993	9.986	0.04%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.07%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 27-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-10

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-10 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-10 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.004	-9.999	-0.03%
-40.0	-7.989	-7.997	0.04%
-30.0	-5.988	-5.996	0.04%
-20.0	-3.983	-3.995	0.06%
-10.0	-1.993	-1.993	0.00%
0.0	0.003	0.008	-0.02%
10.0	1.995	2.009	-0.07%
20.0	3.990	4.010	-0.10%
30.0	5.998	6.012	-0.07%
40.0	8.014	8.013	0.01%
50.0	10.043	10.014	0.14%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:            Alum.                    MAX NON-LIN:            0.14%  
TARGET CURVATURE:           Flat                      SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204  
NOTES:  
CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 27-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-10

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-10 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-10 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.023	0.12%
-40.0	-7.998	-8.014	0.08%
-30.0	-6.002	-6.004	0.01%
-20.0	-3.999	-3.995	-0.02%
-10.0	-2.001	-1.985	-0.08%
0.0	0.005	0.024	-0.10%
10.0	2.011	2.034	-0.11%
20.0	4.021	4.044	-0.11%
30.0	6.043	6.053	-0.05%
40.0	8.070	8.063	0.04%
50.0	10.119	10.072	0.23%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.23%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 27-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-11

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-11 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-11 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.002	-9.985	-0.09%
-40.0	-7.985	-7.989	0.02%
-30.0	-5.992	-5.992	0.00%
-20.0	-3.979	-3.996	0.09%
-10.0	-1.991	-2.000	0.04%
0.0	0.002	-0.004	0.03%
10.0	1.988	1.993	-0.02%
20.0	3.979	3.989	-0.05%
30.0	5.977	5.985	-0.04%
40.0	7.975	7.981	-0.03%
50.0	9.987	9.978	0.05%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 27-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-11

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-11 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-11 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.005	0.03%
-40.0	-7.998	-8.003	0.02%
-30.0	-5.998	-6.000	0.01%
-20.0	-3.995	-3.998	0.01%
-10.0	-1.999	-1.995	-0.02%
0.0	0.003	0.008	-0.02%
10.0	2.000	2.010	-0.05%
20.0	4.002	4.013	-0.05%
30.0	6.011	6.015	-0.02%
40.0	8.019	8.018	0.01%
50.0	10.039	10.021	0.09%

---

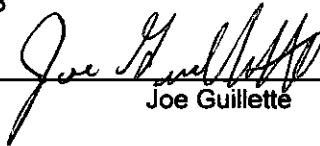
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty  
 KAMAN S/O # : R091120WM1  
 SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-12  
 SENSOR SN: S0812221-06-12 +X  
 SENSOR SN: S0812221-06-12 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.977	-0.11%
-40.0	-7.988	-7.984	-0.02%
-30.0	-5.984	-5.991	0.03%
-20.0	-3.983	-3.997	0.07%
-10.0	-1.990	-2.004	0.07%
0.0	0.001	-0.011	0.06%
10.0	1.986	1.983	0.02%
20.0	3.971	3.976	-0.03%
30.0	5.961	5.969	-0.04%
40.0	7.956	7.963	-0.03%
50.0	9.954	9.956	-0.01%

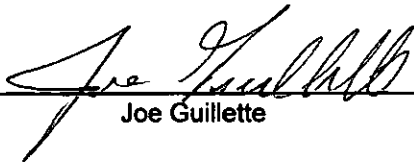
---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.11%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN:

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-12  
SENSOR SN: S0812221-06-12 +Y  
SENSOR SN: S0812221-06-12 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.993	-0.03%
-40.0	-7.991	-7.994	0.02%
-30.0	-5.990	-5.996	0.03%
-20.0	-3.990	-3.997	0.04%
-10.0	-1.996	-1.998	0.01%
0.0	0.000	0.000	0.00%
10.0	1.994	1.999	-0.02%
20.0	3.989	3.998	-0.04%
30.0	5.986	5.996	-0.05%
40.0	7.993	7.995	-0.01%
50.0	10.008	9.994	0.07%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.07%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette





KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 27-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-13

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-13 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-13 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.002	-9.991	-0.06%
-40.0	-7.997	-7.994	-0.01%
-30.0	-5.998	-5.998	0.00%
-20.0	-3.996	-4.001	0.03%
-10.0	-1.994	-2.005	0.05%
0.0	0.001	-0.008	0.05%
10.0	1.989	1.988	0.00%
20.0	3.984	3.985	0.00%
30.0	5.981	5.981	0.00%
40.0	7.975	7.978	-0.02%
50.0	9.968	9.975	-0.03%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 13-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-14

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-14 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-14 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.955	-0.24%
-40.0	-7.970	-7.965	-0.02%
-30.0	-5.953	-5.976	0.12%
-20.0	-3.947	-3.987	0.20%
-10.0	-1.962	-1.998	0.18%
0.0	0.000	-0.009	0.05%
10.0	1.962	1.980	-0.09%
20.0	3.937	3.969	-0.16%
30.0	5.932	5.958	-0.13%
40.0	7.941	7.947	-0.03%
50.0	9.958	9.936	0.11%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.24%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 13-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-14

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-14 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-14 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.006	-9.985	-0.10%
-40.0	-7.989	-7.989	0.00%
-30.0	-5.982	-5.992	0.05%
-20.0	-3.980	-3.996	0.08%
-10.0	-1.988	-1.999	0.06%
0.0	0.000	-0.003	0.02%
10.0	1.989	1.993	-0.02%
20.0	3.982	3.990	-0.04%
30.0	5.978	5.986	-0.04%
40.0	7.969	7.983	-0.07%
50.0	9.994	9.979	0.07%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.10%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-15

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-15 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-15 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-9.999	-9.952	-0.23%
-40.0	-7.960	-7.963	0.01%
-30.0	-5.942	-5.973	0.15%
-20.0	-3.938	-3.983	0.23%
-10.0	-1.966	-1.994	0.14%
0.0	0.000	-0.004	0.02%
10.0	1.960	1.986	-0.13%
20.0	3.931	3.975	-0.22%
30.0	5.932	5.965	-0.16%
40.0	7.949	7.955	-0.03%
50.0	9.989	9.944	0.22%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.23%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-15

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-15 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-15 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.003	-9.992	-0.05%
-40.0	-7.994	-7.995	0.00%
-30.0	-5.994	-5.997	0.02%
-20.0	-3.988	-4.000	0.06%
-10.0	-1.996	-2.002	0.03%
0.0	0.000	-0.005	0.02%
10.0	1.989	1.993	-0.02%
20.0	3.979	3.991	-0.06%
30.0	5.982	5.988	-0.03%
40.0	7.984	7.986	-0.01%
50.0	9.991	9.983	0.04%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-16

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-16 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-16 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.967	-0.17%
-40.0	-7.979	-7.977	-0.01%
-30.0	-5.978	-5.987	0.04%
-20.0	-3.974	-3.997	0.11%
-10.0	-1.990	-2.007	0.08%
0.0	-0.001	-0.016	0.08%
10.0	1.976	1.974	0.01%
20.0	3.953	3.964	-0.05%
30.0	5.945	5.954	-0.04%
40.0	7.933	7.944	-0.05%
50.0	9.934	9.934	0.00%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.17%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-16

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-16 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-16 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-9.953	-0.24%
-40.0	-7.972	-7.966	-0.03%
-30.0	-5.961	-5.979	0.09%
-20.0	-3.960	-3.993	0.16%
-10.0	-1.981	-2.006	0.12%
0.0	0.000	-0.019	0.10%
10.0	1.970	1.968	0.01%
20.0	3.939	3.954	-0.08%
30.0	5.925	5.941	-0.08%
40.0	7.916	7.928	-0.06%
50.0	9.915	9.915	0.00%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.24%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-17

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-17 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-17 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-10.018	0.09%
-40.0	-7.999	-8.012	0.07%
-30.0	-6.008	-6.006	-0.01%
-20.0	-4.002	-4.000	-0.01%
-10.0	-2.007	-1.994	-0.07%
0.0	0.000	0.012	-0.06%
10.0	2.004	2.018	-0.07%
20.0	4.007	4.025	-0.09%
30.0	6.025	6.031	-0.03%
40.0	8.042	8.037	0.03%
50.0	10.075	10.043	0.16%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.16%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.201  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jul-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-17  
SENSOR SN: S0812221-06-17 +Y  
SENSOR SN: S0812221-06-17 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.001	-9.991	-0.05%
-40.0	-7.990	-7.993	0.02%
-30.0	-5.992	-5.996	0.02%
-20.0	-3.988	-3.998	0.05%
-10.0	-1.997	-2.000	0.02%
0.0	-0.001	-0.003	0.01%
10.0	1.991	1.995	-0.02%
20.0	3.981	3.993	-0.06%
30.0	5.988	5.990	-0.01%
40.0	7.985	7.988	-0.01%
50.0	9.994	9.986	0.04%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 4-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-18  
SENSOR SN: S0812221-06-18 +X  
SENSOR SN: S0812221-06-18 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.001	-10.007	0.03%
-40.0	-7.993	-8.004	0.06%
-30.0	-6.007	-6.001	-0.03%
-20.0	-4.003	-3.998	-0.02%
-10.0	-2.002	-1.995	-0.03%
0.0	0.000	0.007	-0.04%
10.0	2.007	2.010	-0.02%
20.0	4.016	4.013	0.01%
30.0	6.014	6.016	-0.01%
40.0	8.018	8.019	-0.01%
50.0	10.033	10.022	0.05%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/9/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 4-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-18

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-18 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-18 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-9.999	-10.000	0.00%
-40.0	-7.993	-7.999	0.03%
-30.0	-6.004	-5.998	-0.03%
-20.0	-3.996	-3.997	0.01%
-10.0	-1.997	-1.996	0.00%
0.0	0.001	0.004	-0.02%
10.0	2.003	2.005	-0.01%
20.0	4.010	4.006	0.02%
30.0	6.005	6.007	-0.01%
40.0	8.007	8.008	0.00%
50.0	10.012	10.009	0.02%

---

SUPPLY VOLTAGE (VOLTS

±15

NON-LIN SPEC:

0.50%

TARGET MATERIAL:

Alum.

MAX NON-LIN:

0.03%

TARGET CURVATURE:

Flat

SCALE (V/Mils):

0.200

CALIBRATION NULL (Mils):

60

P/N:

854925-204

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:



Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-19

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-19 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-19 -X

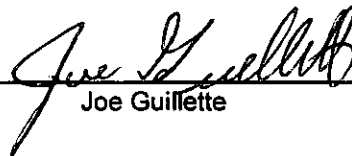
---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.990	-0.05%
-40.0	-7.996	-7.993	-0.01%
-30.0	-5.992	-5.996	0.02%
-20.0	-3.987	-3.999	0.06%
-10.0	-1.997	-2.002	0.03%
0.0	-0.002	-0.005	0.02%
10.0	1.990	1.992	-0.01%
20.0	3.979	3.989	-0.05%
30.0	5.984	5.986	-0.01%
40.0	7.980	7.983	-0.01%
50.0	9.983	9.980	0.02%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.06%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204  
NOTES:  
CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guiffette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 6-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-19

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-19 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-19 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.003	-10.049	0.23%
-40.0	-8.019	-8.034	0.08%
-30.0	-6.033	-6.019	-0.07%
-20.0	-4.025	-4.004	-0.10%
-10.0	-2.017	-1.990	-0.14%
0.0	0.000	0.025	-0.13%
10.0	2.022	2.040	-0.09%
20.0	4.052	4.055	-0.02%
30.0	6.078	6.070	0.04%
40.0	8.099	8.085	0.07%
50.0	10.125	10.100	0.13%

---

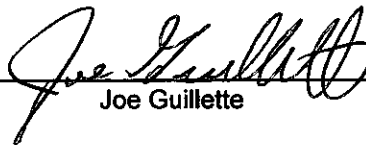
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.23%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 13-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-20  
SENSOR SN: S0812221-06-20 +X  
SENSOR SN: S0812221-06-20 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.003	-9.985	-0.09%
-40.0	-7.975	-7.985	0.05%
-30.0	-5.967	-5.986	0.10%
-20.0	-3.963	-3.987	0.12%
-10.0	-1.979	-1.988	0.05%
0.0	0.000	0.011	-0.05%
10.0	1.982	2.010	-0.14%
20.0	3.979	4.009	-0.15%
30.0	5.988	6.008	-0.10%
40.0	8.013	8.007	0.03%
50.0	10.044	10.006	0.19%

---

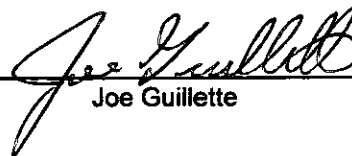
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.19%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 13-Aug-09

CUSTOMER P.O.# : 75-S063182  
 KAMAN S/O # : S0812221  
 SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-20  
 SENSOR SN: S0812221-06-20 +Y  
 SENSOR SN: S0812221-06-20 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-9.999	-9.958	-0.21%
-40.0	-7.967	-7.966	0.00%
-30.0	-5.943	-5.975	0.16%
-20.0	-3.936	-3.983	0.24%
-10.0	-1.970	-1.991	0.11%
0.0	0.000	0.000	0.00%
10.0	1.964	1.992	-0.14%
20.0	3.943	3.983	-0.20%
30.0	5.944	5.975	-0.16%
40.0	7.966	7.967	0.00%
50.0	10.000	9.958	0.21%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.24%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette



**KAMAN MEASURING SYSTEMS**  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

**CALIBRATION RECORD**

CUSTOMER: California Institute Of Technology

DATE: 9-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-21

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-21 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-21 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.008	0.04%
-40.0	-7.998	-8.003	0.02%
-30.0	-6.004	-5.998	-0.03%
-20.0	-3.998	-3.993	-0.03%
-10.0	-1.993	-1.987	-0.03%
0.0	0.018	0.018	0.00%
10.0	2.021	2.023	-0.01%
20.0	4.026	4.028	-0.01%
30.0	6.034	6.034	0.00%
40.0	8.049	8.039	0.05%
50.0	10.042	10.044	-0.01%

---


SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.05%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 9-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-21

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-21 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-21 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.952	-0.24%
-40.0	-7.957	-7.963	0.03%
-30.0	-5.948	-5.975	0.14%
-20.0	-3.954	-3.987	0.16%
-10.0	-1.975	-1.998	0.12%
0.0	0.000	-0.010	0.05%
10.0	1.966	1.978	-0.06%
20.0	3.935	3.966	-0.16%
30.0	5.925	5.955	-0.15%
40.0	7.936	7.943	-0.03%
50.0	9.960	9.931	0.14%

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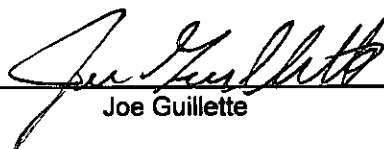
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.24%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:



Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-22

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-22 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-22 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.952	-0.24%
-40.0	-7.948	-7.960	0.06%
-30.0	-5.929	-5.969	0.20%
-20.0	-3.933	-3.978	0.22%
-10.0	-1.964	-1.986	0.11%
0.0	0.000	0.005	-0.03%
10.0	1.962	1.996	-0.17%
20.0	3.939	3.988	-0.24%
30.0	5.942	5.979	-0.19%
40.0	7.963	7.970	-0.04%
50.0	10.024	9.962	0.31%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.31%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):         0.199  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/8/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-22

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-22 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-22 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-9.999	-9.943	-0.28%
-40.0	-7.923	-7.953	0.15%
-30.0	-5.915	-5.963	0.24%
-20.0	-3.940	-3.973	0.16%
-10.0	-1.980	-1.983	0.01%
0.0	-0.001	0.007	-0.04%
10.0	1.974	1.997	-0.12%
20.0	3.954	3.987	-0.17%
30.0	5.942	5.977	-0.18%
40.0	7.945	7.967	-0.11%
50.0	10.023	9.957	0.33%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.33%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-23

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-23 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-23 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.943	-0.29%
-40.0	-7.942	-7.953	0.05%
-30.0	-5.909	-5.962	0.27%
-20.0	-3.920	-3.972	0.26%
-10.0	-1.963	-1.982	0.09%
0.0	0.000	0.008	-0.04%
10.0	1.963	1.999	-0.18%
20.0	3.937	3.989	-0.26%
30.0	5.936	5.979	-0.21%
40.0	7.963	7.969	-0.03%
50.0	10.026	9.959	0.33%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.33%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

FORM 235 2/5/06

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-23

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-23 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-23 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.985	-0.07%
-40.0	-7.996	-7.989	-0.04%
-30.0	-5.982	-5.992	0.05%
-20.0	-3.984	-3.995	0.06%
-10.0	-1.999	-1.999	0.00%
0.0	0.002	-0.002	0.02%
10.0	2.001	1.995	0.03%
20.0	3.995	3.991	0.02%
30.0	5.989	5.988	0.01%
40.0	7.982	7.985	-0.01%
50.0	9.970	9.981	-0.06%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.07%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-24

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-24 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-24 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.946	-0.27%
-40.0	-7.930	-7.953	0.12%
-30.0	-5.905	-5.960	0.27%
-20.0	-3.920	-3.967	0.23%
-10.0	-1.962	-1.974	0.06%
0.0	0.003	0.019	-0.08%
10.0	1.973	2.012	-0.19%
20.0	3.950	4.005	-0.27%
30.0	5.948	5.998	-0.25%
40.0	7.977	7.991	-0.07%
50.0	10.074	9.984	0.45%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.45%  
SCALE (V/Mils): 0.199

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-24

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-24 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-24 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.003	-9.924	-0.40%
-40.0	-7.939	-7.940	0.01%
-30.0	-5.904	-5.956	0.26%
-20.0	-3.913	-3.973	0.30%
-10.0	-1.955	-1.989	0.17%
0.0	0.003	-0.005	0.04%
10.0	1.958	1.979	-0.10%
20.0	3.922	3.963	-0.20%
30.0	5.905	5.946	-0.21%
40.0	7.915	7.930	-0.08%
50.0	9.956	9.914	0.21%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.40%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-25

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-25 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-25 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.967	-0.16%
-40.0	-7.950	-7.969	0.09%
-30.0	-5.922	-5.970	0.24%
-20.0	-3.930	-3.972	0.21%
-10.0	-1.965	-1.974	0.04%
0.0	0.001	0.025	-0.12%
10.0	1.975	2.023	-0.24%
20.0	3.963	4.022	-0.29%
30.0	5.975	6.020	-0.22%
40.0	8.019	8.019	0.00%
50.0	10.107	10.017	0.45%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.45%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-25

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-25 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-25 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.926	-0.37%
-40.0	-7.939	-7.941	0.01%
-30.0	-5.905	-5.957	0.26%
-20.0	-3.915	-3.973	0.29%
-10.0	-1.953	-1.989	0.18%
0.0	0.000	-0.005	0.03%
10.0	1.953	1.979	-0.13%
20.0	3.917	3.963	-0.23%
30.0	5.902	5.947	-0.23%
40.0	7.919	7.931	-0.06%
50.0	9.966	9.916	0.25%

---

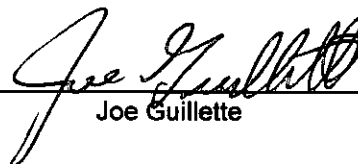
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.37%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-26

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-26 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-26 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.006	-9.952	-0.27%
-40.0	-7.940	-7.959	0.09%
-30.0	-5.925	-5.966	0.21%
-20.0	-3.930	-3.974	0.22%
-10.0	-1.957	-1.981	0.12%
0.0	0.000	0.012	-0.06%
10.0	1.962	2.004	-0.21%
20.0	3.943	3.997	-0.27%
30.0	5.962	5.989	-0.14%
40.0	8.018	7.982	0.18%
50.0	10.000	9.975	0.13%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.27%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-26

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-26 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-26 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.003	-9.973	-0.15%
-40.0	-7.945	-7.974	0.14%
-30.0	-5.937	-5.975	0.19%
-20.0	-3.942	-3.975	0.16%
-10.0	-1.964	-1.976	0.06%
0.0	0.001	0.024	-0.11%
10.0	1.976	2.023	-0.23%
20.0	3.961	4.022	-0.31%
30.0	5.979	6.022	-0.21%
40.0	8.024	8.021	0.01%
50.0	10.110	10.021	0.44%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.44%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/08

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-27  
SENSOR SN: S0812221-06-27 +X  
SENSOR SN: S0812221-06-27 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.989	-0.06%
-40.0	-7.988	-7.991	0.02%
-30.0	-5.990	-5.994	0.02%
-20.0	-3.986	-3.996	0.05%
-10.0	-1.990	-1.999	0.04%
0.0	0.000	-0.001	0.01%
10.0	1.992	1.997	-0.02%
20.0	3.982	3.994	-0.06%
30.0	5.986	5.992	-0.03%
40.0	7.988	7.989	-0.01%
50.0	9.995	9.987	0.04%

---

SUPPLY VOLTAGE (VOLTS)     $\pm 15$                       NON-LIN SPEC:                      0.50%  
TARGET MATERIAL:                      Alum.                      MAX NON-LIN:                      0.06%  
TARGET CURVATURE:                      Flat                      SCALE (V/Mils):                      0.200  
CALIBRATION NULL (Mils):                      60  
P/N:    854925-204

NOTES:

CHANNEL #:                                      A

CALIBRATION TECHNICIAN:

  
\_\_\_\_\_  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-27

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-27 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-27 -Y

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-9.999	-9.992	-0.04%
-40.0	-7.981	-7.992	0.05%
-30.0	-5.984	-5.992	0.04%
-20.0	-3.984	-3.992	0.04%
-10.0	-1.988	-1.993	0.02%
0.0	-0.001	0.007	-0.04%
10.0	1.993	2.007	-0.07%
20.0	3.987	4.007	-0.10%
30.0	5.996	6.007	-0.05%
40.0	8.007	8.007	0.00%
50.0	10.034	10.006	0.14%

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.14%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-28

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-28 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-28 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.001	0.00%
-40.0	-7.991	-7.999	0.04%
-30.0	-5.998	-5.998	0.00%
-20.0	-3.993	-3.997	0.02%
-10.0	-1.995	-1.996	0.00%
0.0	-0.003	0.005	-0.04%
10.0	1.999	2.007	-0.04%
20.0	3.997	4.008	-0.05%
30.0	6.005	6.009	-0.02%
40.0	8.010	8.010	0.00%
50.0	10.029	10.011	0.09%

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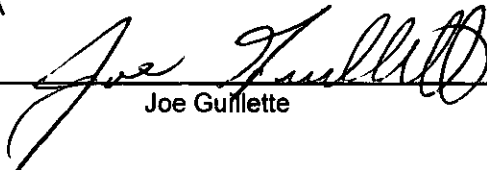
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guiffette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-28

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-28 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-28 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.982	-0.09%
-40.0	-7.979	-7.985	0.03%
-30.0	-5.983	-5.988	0.02%
-20.0	-3.977	-3.991	0.07%
-10.0	-1.984	-1.994	0.05%
0.0	0.004	0.002	0.01%
10.0	1.995	1.999	-0.02%
20.0	3.984	3.996	-0.06%
30.0	5.985	5.993	-0.04%
40.0	7.984	7.990	-0.03%
50.0	9.998	9.986	0.06%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.09%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 20-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-29  
SENSOR SN: S0812221-06-29 +X  
SENSOR SN: S0812221-06-29 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.973	-0.13%
-40.0	-7.984	-7.980	-0.02%
-30.0	-5.984	-5.987	0.02%
-20.0	-3.980	-3.994	0.07%
-10.0	-1.984	-2.001	0.09%
0.0	0.003	-0.008	0.06%
10.0	1.993	1.985	0.04%
20.0	3.975	3.978	-0.01%
30.0	5.968	5.971	-0.01%
40.0	7.956	7.964	-0.04%
50.0	9.945	9.957	-0.06%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.13%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

FORM 235 2/9/08

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 21-Aug-09

CUSTOMER P.O.# : 75-S063182  
KAMAN S/O # : S0812221  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-29  
SENSOR SN: S0812221-06-29 +Y  
SENSOR SN: S0812221-06-29 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.958	-0.21%
-40.0	-7.956	-7.965	0.05%
-30.0	-5.932	-5.973	0.20%
-20.0	-3.940	-3.980	0.20%
-10.0	-1.965	-1.988	0.11%
0.0	-0.001	0.005	-0.03%
10.0	1.959	1.997	-0.19%
20.0	3.943	3.990	-0.23%
30.0	5.944	5.983	-0.19%
40.0	7.973	7.975	-0.01%
50.0	10.029	9.968	0.31%

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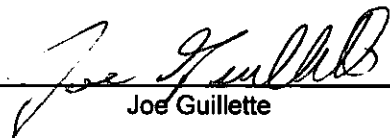
SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.31%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
 217 SMITH STREET  
 MIDDLETOWN, CONNECTICUT 06457  
 CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology      DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty      SYSTEM SN: S0812221-06-30  
 KAMAN S/O # : R091120WM1      SENSOR SN: S0812221-06-30 +X  
 SYSTEM MODEL NO.: DIT-5200-20N      SENSOR SN: S0812221-06-30 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.912	-0.44%
-40.0	-7.927	-7.932	0.02%
-30.0	-5.897	-5.952	0.27%
-20.0	-3.905	-3.972	0.33%
-10.0	-1.945	-1.991	0.23%
0.0	0.001	-0.011	0.06%
10.0	1.940	1.969	-0.14%
20.0	3.894	3.949	-0.28%
30.0	5.873	5.929	-0.28%
40.0	7.894	7.909	-0.08%
50.0	9.947	9.889	0.29%

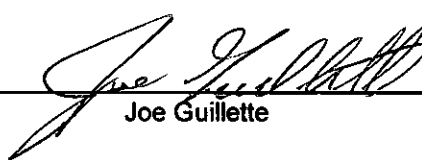
---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.44%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
 Joe Guillet

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 19-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-30

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-30 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-30 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.918	-0.41%
-40.0	-7.921	-7.935	0.07%
-30.0	-5.893	-5.952	0.29%
-20.0	-3.902	-3.969	0.33%
-10.0	-1.945	-1.985	0.20%
0.0	-0.001	-0.002	0.01%
10.0	1.940	1.981	-0.20%
20.0	3.899	3.964	-0.33%
30.0	5.886	5.947	-0.31%
40.0	7.917	7.930	-0.07%
50.0	9.995	9.914	0.41%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.41%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 2-Feb-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-31  
SENSOR SN: S0812221-06-31 +X  
SENSOR SN: S0812221-06-31 -X

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.996	-0.03%
-40.0	-7.991	-7.995	0.02%
-30.0	-5.986	-5.994	0.04%
-20.0	-3.986	-3.993	0.03%
-10.0	-1.986	-1.991	0.03%
0.0	0.004	0.010	-0.03%
10.0	2.006	2.011	-0.02%
20.0	3.995	4.012	-0.09%
30.0	6.001	6.013	-0.06%
40.0	8.015	8.015	0.00%
50.0	10.037	10.016	0.11%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.11%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.200  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

**KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442**

**CALIBRATION RECORD**

CUSTOMER: California Institute Of Technology

DATE: 2-Feb-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-31  
SENSOR SN: S0812221-06-31 +Y  
SENSOR SN: S0812221-06-31 -Y

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.956	-0.22%
-40.0	-7.944	-7.962	0.09%
-30.0	-5.931	-5.968	0.19%
-20.0	-3.935	-3.974	0.19%
-10.0	-1.959	-1.980	0.10%
0.0	0.003	0.014	-0.05%
10.0	1.977	2.008	-0.15%
20.0	3.950	4.002	-0.26%
30.0	5.955	5.996	-0.21%
40.0	7.986	7.990	-0.02%
50.0	10.052	9.984	0.34%

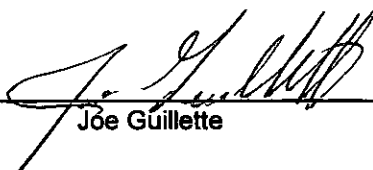
---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.34%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.199
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-32

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-32 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-32 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.003	-9.961	-0.21%
-40.0	-7.970	-7.970	0.00%
-30.0	-5.952	-5.980	0.14%
-20.0	-3.962	-3.990	0.14%
-10.0	-1.980	-1.999	0.10%
0.0	-0.002	-0.009	0.04%
10.0	1.971	1.981	-0.05%
20.0	3.952	3.972	-0.10%
30.0	5.943	5.962	-0.09%
40.0	7.940	7.952	-0.06%
50.0	9.963	9.942	0.10%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC: 0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN: 0.21%  
TARGET CURVATURE: Flat      SCALE (V/Mils): 0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
\_\_\_\_\_  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 24-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-32

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-32 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-32 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-9.950	-0.25%
-40.0	-7.982	-7.960	-0.11%
-30.0	-5.900	-5.969	0.34%
-20.0	-3.914	-3.978	0.32%
-10.0	-1.951	-1.988	0.18%
0.0	-0.001	0.003	-0.02%
10.0	1.947	1.994	-0.23%
20.0	3.918	3.984	-0.33%
30.0	5.918	5.975	-0.28%
40.0	7.955	7.966	-0.05%
50.0	10.042	9.956	0.43%

---

SUPPLY VOLTAGE (VOLTS) ±15      NON-LIN SPEC:      0.50%  
TARGET MATERIAL: Alum.      MAX NON-LIN:      0.43%  
TARGET CURVATURE: Flat      SCALE (V/Mils):      0.199  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NOTES:

CHANNEL #:      B

CALIBRATION TECHNICIAN: \_\_\_\_\_

FORM 235 2/5/09

  
Joe Guillette



KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-33

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-33 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-33 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-10.004	0.02%
-40.0	-7.999	-8.002	0.02%
-30.0	-5.998	-6.001	0.02%
-20.0	-4.001	-4.000	0.00%
-10.0	-2.002	-1.999	-0.02%
0.0	-0.002	0.002	-0.02%
10.0	1.992	2.003	-0.06%
20.0	4.000	4.005	-0.02%
30.0	6.012	6.006	0.03%
40.0	8.007	8.007	0.00%
50.0	10.016	10.008	0.04%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.06%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 18-Jan-10

CUSTOMER P.O.# : Warranty  
KAMAN S/O # : R091120WM1  
SYSTEM MODEL NO.: DIT-5200-20N

SYSTEM SN: S0812221-06-33  
SENSOR SN: S0812221-06-33 +Y  
SENSOR SN: S0812221-06-33 -Y

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.001	-9.988	-0.07%
-40.0	-7.998	-7.992	-0.03%
-30.0	-5.995	-5.996	0.01%
-20.0	-3.995	-4.001	0.03%
-10.0	-1.997	-2.005	0.04%
0.0	0.000	-0.009	0.05%
10.0	1.989	1.987	0.01%
20.0	3.990	3.983	0.04%
30.0	5.986	5.978	0.04%
40.0	7.969	7.974	-0.03%
50.0	9.953	9.970	-0.08%

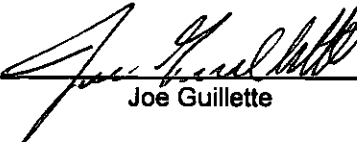
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SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.08%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.200
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-34

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-34 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-34 -X

---

DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.994	-0.03%
-40.0	-8.000	-7.995	-0.02%
-30.0	-5.997	-5.997	0.00%
-20.0	-3.993	-3.999	0.03%
-10.0	-1.994	-2.000	0.03%
0.0	0.002	-0.002	0.02%
10.0	1.996	1.996	0.00%
20.0	3.996	3.995	0.01%
30.0	5.995	5.993	0.01%
40.0	7.995	7.991	0.02%
50.0	9.978	9.990	-0.06%

---

SUPPLY VOLTAGE (VOLTS) ±15  
TARGET MATERIAL: Alum.  
TARGET CURVATURE: Flat  
CALIBRATION NULL (Mils): 60  
P/N: 854925-204

NON-LIN SPEC: 0.50%  
MAX NON-LIN: 0.06%  
SCALE (V/Mils): 0.200

NOTES:

CHANNEL #: A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-34

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-34 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-34 -Y

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-10.019	0.09%
-40.0	-8.006	-8.012	0.03%
-30.0	-6.005	-6.005	0.00%
-20.0	-3.997	-3.998	0.00%
-10.0	-2.002	-1.991	-0.06%
0.0	0.003	0.017	-0.07%
10.0	2.006	2.024	-0.09%
20.0	4.018	4.031	-0.07%
30.0	6.035	6.038	-0.02%
40.0	8.057	8.046	0.06%
50.0	10.076	10.053	0.12%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.12%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.201
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		

NOTES:

CHANNEL #:

B

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-35

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-35 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-35 -X

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DISPLACEMENT Mils	OUTPUT VOLTS	LEAST SQUARES FIT VOLTS	NON-LINEARITY % FSO
-50.0	-10.000	-9.979	-0.11%
-40.0	-7.974	-7.981	0.04%
-30.0	-5.962	-5.984	0.11%
-20.0	-3.960	-3.987	0.14%
-10.0	-1.977	-1.990	0.07%
0.0	-0.001	0.007	-0.04%
10.0	1.977	2.004	-0.13%
20.0	3.966	4.001	-0.18%
30.0	5.972	5.998	-0.13%
40.0	7.999	7.995	0.02%
50.0	10.036	9.992	0.22%

---

SUPPLY VOLTAGE (VOLTS)    ±15                    NON-LIN SPEC:            0.50%  
TARGET MATERIAL:           Alum.                    MAX NON-LIN:            0.22%  
TARGET CURVATURE:        Flat                     SCALE (V/Mils):        0.200  
CALIBRATION NULL (Mils):    60  
P/N:                            854925-204

NOTES:

CHANNEL #:                    A

CALIBRATION TECHNICIAN:

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 25-Aug-09

CUSTOMER P.O.# : 75-S063182

SYSTEM SN: S0812221-06-35

KAMAN S/O # : S0812221

SENSOR SN: S0812221-06-35 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-35 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.000	-10.005	0.02%
-40.0	-8.004	-8.003	0.00%
-30.0	-6.000	-6.001	0.00%
-20.0	-3.997	-3.999	0.01%
-10.0	-1.997	-1.997	0.00%
0.0	0.001	0.005	-0.02%
10.0	1.999	2.007	-0.04%
20.0	4.002	4.009	-0.03%
30.0	6.011	6.011	0.00%
40.0	8.023	8.013	0.05%
50.0	10.017	10.015	0.01%

---

SUPPLY VOLTAGE (VOLTS) ±15 NON-LIN SPEC: 0.50%

TARGET MATERIAL: Alum. MAX NON-LIN: 0.05%

TARGET CURVATURE: Flat SCALE (V/Mils): 0.200

CALIBRATION NULL (Mils): 60

P/N: 854925-204

NOTES:

CHANNEL #: B

CALIBRATION TECHNICIAN: \_\_\_\_\_

  
Joe Guillette

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-36

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-36 +X

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-36 -X

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DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.002	-9.906	-0.48%
-40.0	-7.912	-7.926	0.07%
-30.0	-5.880	-5.946	0.33%
-20.0	-3.885	-3.966	0.40%
-10.0	-1.936	-1.986	0.25%
0.0	-0.001	-0.006	0.02%
10.0	1.927	1.974	-0.24%
20.0	3.878	3.954	-0.38%
30.0	5.861	5.934	-0.37%
40.0	7.902	7.914	-0.06%
50.0	9.985	9.894	0.45%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.48%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	A		

CALIBRATION TECHNICIAN: \_\_\_\_\_

KAMAN MEASURING SYSTEMS  
217 SMITH STREET  
MIDDLETOWN, CONNECTICUT 06457  
CUSTOMER SERVICE (860) 632-4442

CALIBRATION RECORD

CUSTOMER: California Institute Of Technology

DATE: 28-Jan-10

CUSTOMER P.O.# : Warranty

SYSTEM SN: S0812221-06-36

KAMAN S/O # : R091120WM1

SENSOR SN: S0812221-06-36 +Y

SYSTEM MODEL NO.: DIT-5200-20N

SENSOR SN: S0812221-06-36 -Y

---

DISPLACEMENT	OUTPUT	LEAST SQUARES FIT	NON-LINEARITY
Mils	VOLTS	VOLTS	% FSO
-50.0	-10.001	-9.915	-0.43%
-40.0	-7.922	-7.932	0.05%
-30.0	-5.893	-5.950	0.29%
-20.0	-3.896	-3.968	0.36%
-10.0	-1.938	-1.986	0.24%
0.0	0.000	-0.003	0.02%
10.0	1.938	1.979	-0.20%
20.0	3.894	3.961	-0.34%
30.0	5.884	5.943	-0.30%
40.0	7.916	7.926	-0.05%
50.0	9.981	9.908	0.37%

---

SUPPLY VOLTAGE (VOLTS)	±15	NON-LIN SPEC:	0.50%
TARGET MATERIAL:	Alum.	MAX NON-LIN:	0.43%
TARGET CURVATURE:	Flat	SCALE (V/Mils):	0.198
CALIBRATION NULL (Mils):	60		
P/N:	854925-204		
NOTES:			
CHANNEL #:	B		

CALIBRATION TECHNICIAN: \_\_\_\_\_