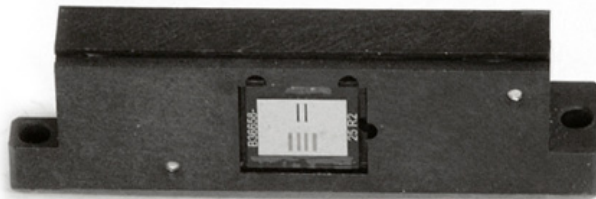


# **MODEL LDM Non-Contacting High Resolution Linear Encoder Kit**



- Low cost non-contacting linear encoder designed for OEM usage
- Utilizes reflective optical diffraction technology for superb bi-directional repeatability
- .520" by 1.814" cross section designed to fit most space restrictive applications
- Available in either Metric or English Resolutions down to ( 1.0 Micron, .00005 inch )
- Differential, TTL compatible line driver output with optional index
- Travel speeds up to 2 meters per second ( 80 inches per second )
- Up to 48" ( 1220mm ) travel lengths
- Enhanced mounting tolerances
- Single LED light source

The model LDM is a compact non-contacting high resolution incremental linear encoder. It is available with three scale options. Mini scale, Micro scale and the Micro scale mounted on a spar for simplifying the scale installation. In addition to the varies scale options the model LDM can also be supplied with varies lengths of PVC jacketed cable or a 12" PARLEX high flex cable.



# LDM SPECIFICATIONS

## ELECTRICAL

- Resolution range: See part number table for available resolutions.  
 Light source: Gallium aluminum arsenide L.E.D. rated @ 100,000 Hrs. MTBF (mfg's spec).  
 Light sensor: Phototransistor detectors.  
 Excitation voltage: +5Vdc ± 5% at 120mA maximum.  
 Output format: Differential line driver RS422 output.  
 Two count channels ( A & B ) in phase quadrature with an optional ZR output.  
 Quadrature: 90° ± 45° ( at maximum conditions ).  
 Symmetry: 180° ± 18° ( at 10 KHz output frequency ).  
 Rise and fall time: 1 microsecond max. into 1,000pf load capacitance. Note: Units with line driver output the rise and fall time vary with line and load capacitance.  
 Zero reference width: See Zero Reference width chart.  
 Phase sense: Channel A leads channel B for left to right movement of the scale when viewing the pattern side of the scale.

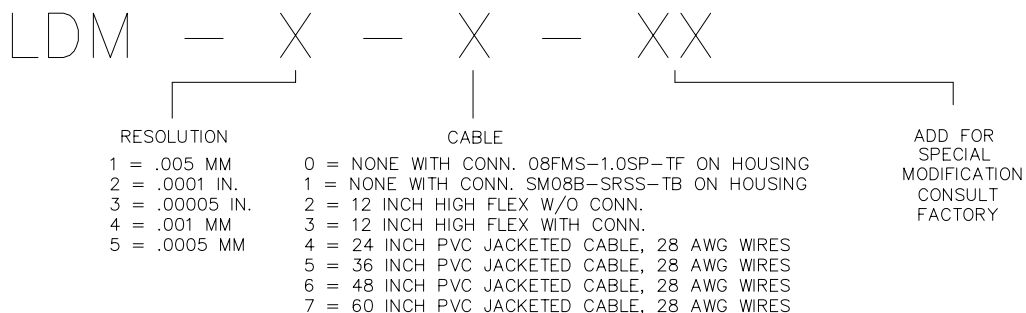
## MECHANICAL

- Housing material: 20% glass filled polycarbonate.  
 Scale material: Soda-lime glass ( Thermal expansion 4.5 PPM/°F ).  
 Cover material: 20% glass filled polycarbonate.  
 Connector on encoder: JST # 08FMS-1.0SP-TF ( fits Parlex cable ).  
 JST # SM08B-SRSS-TB ( fits PVC cable ).

## ENVIRONMENTAL

- Operating temperature: 0°C to +70°C  
 Storage temperature range: -25°C TO +85°C  
 Shock: 10 G for 11 millisecond duration.  
 Humidity: To 98% R.H. ( non-condensing).

RESOLUTION	SPEED	ZERO REFERENCE WIDTH
(1) .005 MM	80 IN. / SEC. (2.0 MPS)	8 CYCLES APPROXIMATE
(2) .0001 IN.	80 IN. / SEC. (2.0 MPS)	15 CYCLES APPROXIMATE
(3) .00005 IN.	40 IN. / SEC. (1.0 MPS)	30 CYCLES APPROXIMATE
(4) .001 MM	40 IN. / SEC. (1.0 MPS)	38 CYCLES APPROXIMATE
(5) .0005 MM	20 IN. / SEC. (0.5 MPS)	76 CYCLES APPROXIMATE



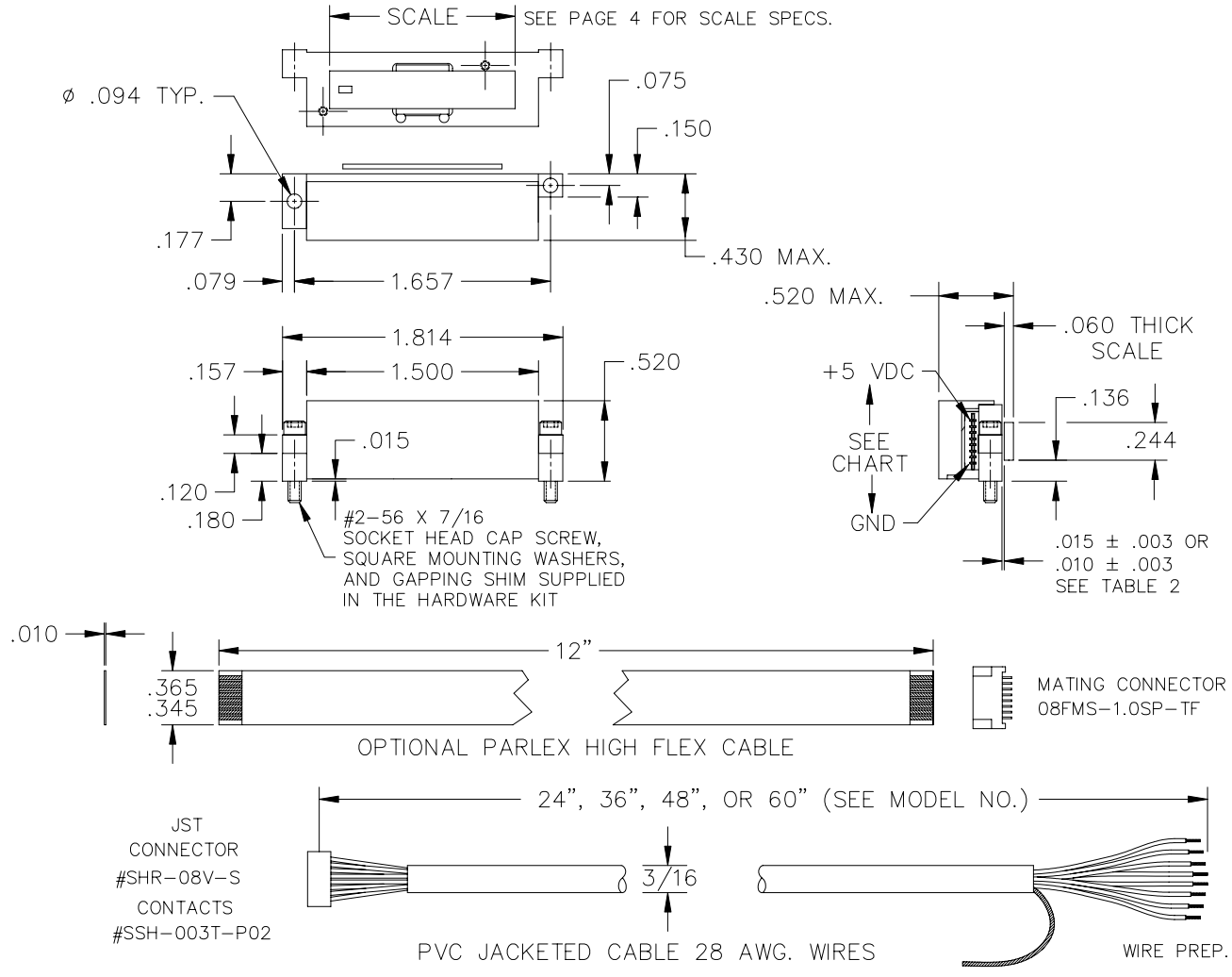


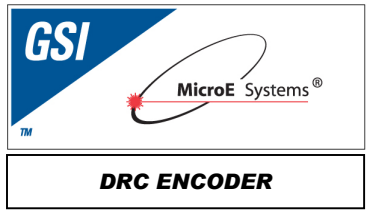
TABLE 1

MAX. LENGTH OF MEASUREMENT STROKE (MICRO SCALE)		
ENGLISH	METRIC	
5.32 IN.	135 MM	NO ZR
5.02 IN.	127 MM	LEFT END OF TRAVEL
5.02 IN.	127 MM	RIGHT END OF TRAVEL
5.32 IN.	135 MM	CENTER OF TRAVEL

TABLE 2

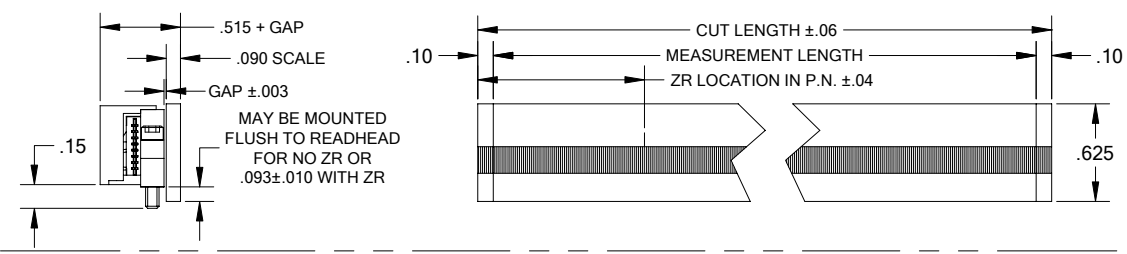
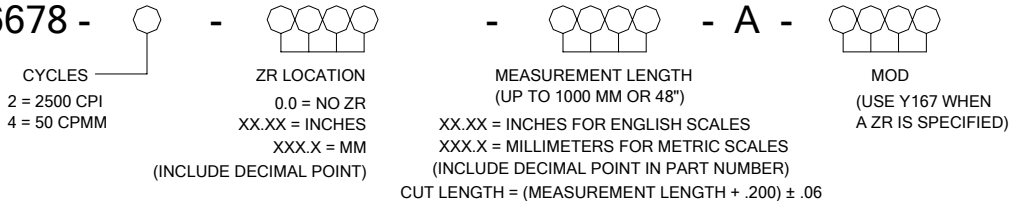
GAP	RESOLUTION
.015	.0001 IN.; .00005 IN.; .001 MM
.010	.0005 MM

FUNCTION
+5 VDC (RED)
Z- (GRAY)
Z+ (BROWN)
B- (BLUE)
B+ (YELLOW)
A- (GREEN)
A+ (ORANGE)
GND (BLACK)



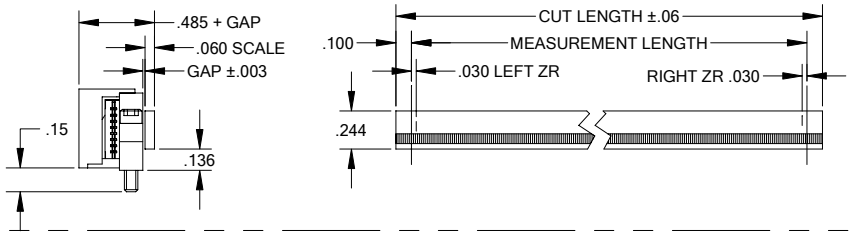
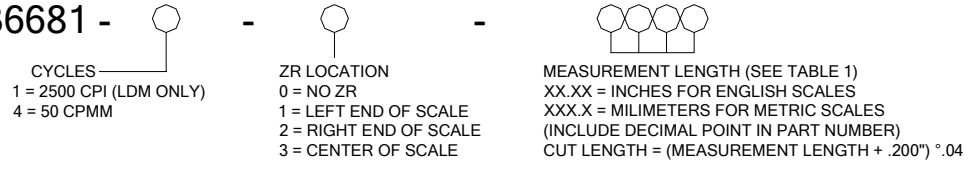
## MINI SCALE

**B36678** -



## MICRO SCALE

**B36681** -



## MICRO SCALE MOUNTED ON A SPAR

**B36679** -

