# K100 Pro Hazardous Daylight Visible Beacon -DC Datasheet



# **Features**

High Daylight Visibility, Programmable Multicolor Indicator with Optional Audible Alarm for Indoor or Outdoor Use



- · Highly visible indicator provides bright, even light in direct sunlight
- Ex/HazLoc approvals for potentially explosive environment applications. ATEX/IECEx and U.S./Canadian Zone approvals on non-audible models only
- Three colors in one device
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- 36 mm threaded polycarbonate base
- Rugged IP69K per ISO 20653, UL Type 4X housing
- PNP or NPN operation depending on wiring
- Rugged UV-stabilized polycarbonate base and dome
- 12 V DC to 48 V DC operating voltage
- IK10 Impact rating for maximum protection in demanding applications

### **Pro Editor**

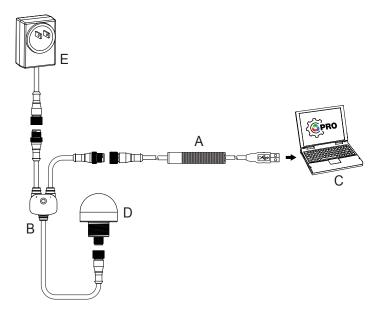


Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations. For more information visit www.bannerengineering.com/proeditor.

### **Full Preview Connection**

The full preview connection (shown below) must be used for the K100 Pro Hazardous Daylight Visible Beacon when changing the configuration from the default listed in "Wiring Diagrams" on page 4 (see also Pro Editor Software Instruction Manual, part number 206058).

> IMPORTANT: Full Preview Connection and Pro Editor software are not approved for use in any potentially explosive environment. Ensure the configuration of the K100 before installing or operating in a potentially explosive environment.



A = Pro Converter Cable (MQDC-506-USB)

A = Pro Converter Cable (MgDC-Sub-USB)

B = Splitter (CSB-M1251FM1251M)

C = PC running Pro Editor software

D = Any Banner Pro Series-enabled device (K50 shown)

E = Power Supply (PSW-24-1 or PSD-24-4)



### Models

Family	Style	Туре	Classification	Color 1	Color 2	Color 3	Audible	Connector <sup>(1)</sup>
	K100 P = Pro	BL = Beacon	= Beacon N = Hazardous Area	G = Green	G = Green	G = Green	Blank = Non- audible	Blank = 2 m (6.5 ft) integral cable <sup>(2)</sup>
				Y = Yellow	Y = Yellow	Y = Yellow	A = Audible	Q = Integral 5-pin M12 male quick-disconnect (QD) connector <sup>(3)</sup>
K100				R = Red	R = Red	R = Red		
				B = Blue	B = Blue	B = Blue		
				W = White	W = White	W = White		

Audible and non-audible K100 Pro Beacon models are approved for (both 2 m integral cable and QD models):

- · Class I Div. 2, Groups ABCD
- Class II Div. 2. Groups FG
- · Class III Div. 1 & Div. 2

Additionally, non-audible K100 Pro Beacon models with 2 m integral cable are ATEX/IECEx and U.S./Canadian Zone<sup>(2)</sup> approved for:

- Ex II 3 G Ex ec IIC T4 Gc
- Ex II 3 D Ex tc IIIC T85°C Dc
- Class I Zone 2, AEx ec IIC T4 Gc
- Class I Zone 2, Ex ec IIC T4 Gc
- Zone 22, AEx tc IIIB T85°C Dc
- Zone 22, Ex tc IIIB T85°C Dc

### Installation Instructions

## Ex/HazLoc Applications



#### WARNING:

- **Explosive Atmospheres/Hazardous Locations**
- It is the user's responsibility to ensure that all local, state, and national laws, rules, codes, or regulations relating to the installation and use of this device in any particular application are satisfied. This device must be installed by a Qualified Person<sup>(4)</sup>, in accordance with this document and applicable regulations.



#### WARNING:

- **Explosion Hazard**
- Do not disconnect equipment unless the power has been switched off or the area is known to be nonhazardous.



#### WARNING:

- Electrostatic Discharge (ESD) Specific Conditions for Safe Use
- Parts of the enclosure are non-conducting and can generate an ignition-capable level of ESD.
- To reduce the risk of ignition due to electrostatic discharge, avoid contact with the equipment while an explosive atmosphere is present.
- Clean the equipment with only a damp cloth.

### Specific Conditions for Use and General Notes

- See Specifications and Wiring Diagrams for important information concerning entity parameters, permissible locations, electrical connections and certifications.
- In addition to the warning above concerning user responsibility, the installation must comply with the following:
  - · All installations must comply with all manufacturer's instructions.
  - · All applicable wiring methods in accordance with the relevant local regulations and the authority having jurisdiction.
  - U.S. Installations: The relevant requirements of the National Electric Code® (ANSI/NFPA-70 NEC®).
  - Canadian Installations: The relevant requirements of the Canadian Electrical Code (CSA C22.1).

Models with a quick-disconnect connector require a mating cordset.

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 For American/Canadian Zone Certification, must be enclosed with a protected conduit or suitable enclosure as detailed in the specific conditions of use.
 Must be enclosed with a protected conduit or a suitable enclosure.
 A Qualified Person is a person who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training and experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work.

- ATEX / IECEx Installations: The relevant requirements of EN IEC 60079-14 and applicable National regulations.
- · Do not attempt any repairs to this device; it contains no field-replaceable parts or components. Tampering and/or replacement with non-factory components may adversely affect the safe use of the system.
- The nonconducting materials of this device may be susceptible to ignition-capable level of electrostatic charging and precautions must be taken to avoid this. The user/installer shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which are conducive to creating a build-up of electrostatic charges.
- Clean with a damp cloth only.
- If the equipment is likely to come into contact with aggressive substances<sup>(5)</sup>, then it is the responsibility of the user to take suitable precautions<sup>(6)</sup> that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.
- The ingress protection (IP rating) of enclosures/panels may be invalidated by the installation of the beacon. The installation of the beacon in a particular enclosure/panel is subject to the evaluation/acceptance of the authority having jurisdiction.
- Models with integral guick-disconnect (QD) connectors:
  - · Use recommended Banner cordsets (see "Cordsets" on page 8), or suitable quick-disconnect cordsets with threaded retaining nut (see "Specifications" on page 5). The cordset must be securely fastened using the quick-disconnect retaining nut to prevent disconnection. Maximum connector torque: 6 inch-lbf.
  - Must be installed such that the connector is protected from impact and unauthorized disconnection. The method of protection can include conduit (e.g. pole, pendent), enclosed raceway, a listed enclosure suitable for the intended use, and/ or by inaccessible location that excludes possible impact damage.
- The device must be powered by a Class 2 or SELV power supply.
- ATEX / IECEx Installations; additional specific conditions of use
  - The Beacon shall only be installed in areas with low risk of mechanical impact.
  - Transient protection shall be provided at a level not exceeding 140% of the peak rated voltage at the supply terminals of the Beacon.
  - For Zone 2: When the equipment is mounted to an external enclosure, the external enclosure shall be rated ATEX/IECEx Zone 2 IP54 minimum, in accordance with IEC/EN 60079-0. To maintain the IP64 rating for the overall assembly of beacon and external enclosure, the external enclosure and any fittings used must be rated IP64 minimum.
  - For Zone 22: When the equipment is mounted to an external enclosure, the external enclosure shall be rated ATEX/IECEx Zone 22 IP64 minimum, in accordance with IEC/EN 60079-0 and IEC/EN 60079-31.
- · U.S. / Canadian Zone Installations; additional specific conditions of use
  - Only non-audible K100 Pro Beacon models with 2 m integral cable.
  - The Beacon shall only be installed in areas with low risk of mechanical impact.
  - Transient protection shall be provided at a level not exceeding 140% of the peak rated voltage at the supply terminals of the Beacon
  - The beacons must be mounted to a conduit/standoff pipe or on an external enclosure. The K100 beacons must be installed on the conduit/standoff pipe or external enclosure in a way that ensures all field wiring is fully contained within the conduit/ standoff pipe or external enclosure.
    - For Zone 2: When the beacon is mounted to an external enclosure, the external enclosure shall be rated Zone 2 IP54 minimum, in accordance with UL/CSA 60079-0. To maintain the IP64 rating for the overall assembly of beacon and external enclosure, the external enclosure and any fittings used must be rated IP64 minimum.
    - For Zone 22: When the beacon is mounted to an external enclosure, the external enclosure shall be rated Zone 22 IP64 minimum, in accordance with UL/CSA 60079-0 and UL/CSA 60079-31.

### Mechanical Installation

Install in a location free of visual obstructions, protected from impact and/or an inaccessible location that minimizes possible impact damage. The K100 Beacon, the cable, and the guick-disconnect connector (if used) must be protected from environmental influences, impact, and unauthorized disconnection (for example, inaccessible location).

The installation of the K100 Beacon must comply with all applicable wiring methods in accordance with the relevant local regulations and the authority having jurisdiction. The K100 Beacon is supplied with a foam washer, an M36 knurl nut, and a 105 mm protective shield.

The K100 has three typical mounting methods:

#### **Enclosure-Mounted**

Use only a listed enclosure suitable for the intended use and appropriately rated for the application and the environment as specified in the Specific Conditions of Use section (above). The K100 Beacon requires a 36 mm hole and the enclosure must extend beyond the K100

The ingress protection (IP rating) of enclosures may be invalidated by the installation of the beacon.

Proper installation of the foam washer is between the K100 Beacon and the enclosure. The M36 knurl nut is installed on the interior of the enclosure and torqued to a maximum of 5.0 N·m (44 inch-lbf).

#### LMB36RA Mounting Bracket

Mount the LMB36RA, or similar L- or flat-plate bracket (customer supplied), in the desired location that complies with the above general mechanical installation requirements.

<sup>(5)</sup> Aggressive substances—for example, acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

(6) Suitable precaution—for example, regular checks as part of routine inspections or establishing from the materials data sheet that is resistant to specific chemicals

To maintain ATEX/IECEx and U.S./Canadian Zone ratings, the installation must use the 105 mm protective shield. The protective shield is mounted between the K100 Beacon and the mounting bracket; the M36 knurl nut is installed once the K100 Beacon is in place and torqued to a maximum of 5.0 N·m (44 inch-lbf).

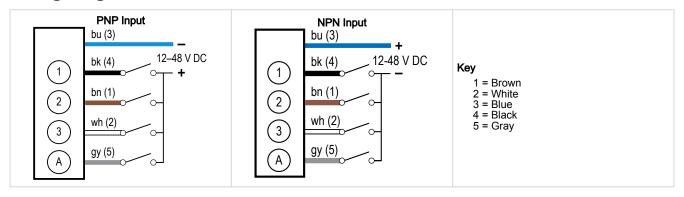
The K100 Beacon cable and the quick-disconnect connector (if used) may be required to be located within 3/4-14 NPT conduit (see below) or race/cable tray as described by relevant local regulations.

#### Conduit / Standoff Pipe

Identify the desired mounting location that complies with the above general mechanical installation requirements, and route the conduit as described by relevant local regulations. Depending on the application, conduit sealing methods may be required at the connection of the conduit and the K100 Beacon (that is, the metal-to-plastic junction will not be gas-tight).

To maintain ATEX/IECExand U.S./Canadian Zone ratings, the installation must use the 105 mm protective shield. The protective bracket is mounted on the base of the K100 Beacon using the M36 knurl nut torqued to a maximum of 5.0 N·m (44 inch-lbf). Once the protective bracket is installed, the K100 Beacon assembly can be fitted onto the 3/4-14 NPT conduit/pipe and tightened to a maximum torque of 4.0 N·m (35 inch-lbf).

# Wiring Diagrams



An "X" denotes an active input.

For example: When Input 1 and Input 3 are both active, the indicator will be Color 1 Flashing at 1 Hz. Refer to model number scheme in "Models" on page 2 to determine individual colors.

#### Default Configuration

	w	iring		Operating Mode/Function			
Black (Input 1)	Brown (Input 2)	White (Input 3)	Gray (Input 4)	Non-Audible	Audible		
x				Color 1 Steady	Color 1 Steady		
	X			Color 2 Steady	Color 2 Steady		
		x		Color 3 Steady	Color 3 Steady		
X		x		Color 1 Flashing at 1 Hz	Color 1 Flashing at 1 Hz		
Х	х			Color 2 Flashing at 1 Hz	Color 2 Flashing at 1 Hz		
	х	х		Color 3 Flashing at 1 Hz	Color 3 Flashing at 1 Hz		
Х	x	X		Color 3, 3-pulse Strobe	Color 3, 3-pulse Strobe		
			х	Off	Audible Steady, Frequency 2.5 KHz, Volume High		
Х			х	Color 1 Steady	Color 1 Steady, Audible Steady, Frequency 2.5 KHz, Volume High		
	х		х	Color 2 Steady	Color 2 Steady, Audible Steady, Frequency 2.5 KHz, Volume High		
		Х	Х	Color 3 Steady	Color 3 Steady, Audible Steady, Frequency 2.5 KHz, Volume High		
Х		X	х	Color 1 Flashing at 1 Hz	Color 1 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High		
Х	x		х	Color 2 Flashing at 1 Hz	Color 2 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High		
	x	Х	х	Color 3 Flashing at 1 Hz	Color 3 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High		
Х	Х	Х	Х	Color 3, 3-pulse Strobe	Color 3, 3-pulse Strobe, Audible Steady, Frequency 2.5 KHz, Volume High		

# **Specifications**

#### **Supply Protection Circuitry**

Protected against reverse polarity and transient voltages

#### Leakage Current Immunity

400 µA

#### **Indicator Response Time**

On response: 325 ms (max) Off response: 20 ms (max)

#### **Operating Conditions**

-40 °C to +60 °C (-40 °F to +140 °F)

90% at +50 °C maximum relative humidity (non-condensing) Storage Temperature: -40 °C to +70 °C (-40 °F to +158 °F)

#### **Environmental Rating**

UL Type 4X

IP66, IP69K per ISO 20653. IP64 when mounted onto an enclosure

#### **LED Lifetime**

Lumen maintenance L<sub>70</sub>

When operating within specifications, output decreases less than 30% after 42,000 hours

#### Mounting

M36 by 2.0 threaded base, maximum torque 5.0 N·m (44 inch-lbf)

Interior 3/4-14 NPT Thread Mounting nut included

#### Supply Voltage and Current

America)

12 V DC to 48 V DC

Product approved with usage of Class 1 or Class 3 Power Supply to achieve Class 2 Power Supply status Use only with a suitable Class 2 power supply (North

	Maximum Current (mA)						
		Flash, or Strobe	Rotate Function				
Voltage	Light Only	Light & Audible	Light Only	Light & Audible			
12	760	820	365	435			
18	495	530	235	275			
24	395	425	185	220			
30	340	365	165	195			
36	305	330	150	180			
42	280	305	145	170			
48	260	285	140	165			

<sup>(7)</sup> Flash or Strobe Mode: Peak current, operating at 50% duty cycle or less.

#### Adjacent Unit Mounting Separation Distance

Minimum: 0 in (mounted with unit flanges touching)

Base, Dome, and Nut: Polycarbonate 105 mm protective shield: Stainless steel

#### Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell) Meets IEC 60068-2-27 requirements (Shock: 30G 11 ms duration, half sine wave)

Impact: IK10 (60068-2-75)

#### Certifications



Banner Engineering BV Park Lane, Culliganlaan 2F bus 3 1831 Diegem, BELGIUM



E530817

#### **Maximum Power Input**

Light Only: 12.5 W Light and Audible: 13.5 W

#### Connections

2 m (6.5 ft) integral ITC-ER PVC-jacketed cable:

PLTC and ITC-ER (UL 2095) 22 AWG (0.34 mm<sup>2</sup>), 105°C, 300 V

Jacket & Conductor Insulation: PVC

Jacket Diameter: 5.6 mm

Integral 5-pin M12 male guick-disconnect connector:

M12 x 1

Nickel plated brass

Models with a quick disconnect require a mating cordset. Specific cordset will be determined by installation requirements, at a minimum:

5-pin M12 female quick-disconnect cordset (see

"Cordsets" on page 8) M12 female connector: per IEC 61076-2-101, must have

threaded M12 x 1 retaining nut

Multiconductor cable: UL AWM 2517, 24 AWG (0.25 mm<sup>2</sup>) wire, rated ≥ 80 °C

#### **Audible Characteristics**

Sound Intensity at 2.5 KHz, at 1 m (typical):

Low volume setting: 93 dB Medium volume setting: 96 dB High volume setting: 101 dB

#### **Approvals**

NEC and CEC (cULus)

Gas and Vapors: Class I Div 2 Groups ABCD T4 Dust and Fibers/flyings: Class II Div 2 Groups FG T6; Class III Div 1 and Div 2 T6 NOIV(7) E530817-Vol1-Sec1

#### ATEX/IECEx

Only non-audible K100 Pro Beacon models with 2 m integral cable

Gas and Vapors: (Ex) II 3 G Ex ec IIC T4 Gc (Group IIC Zone 2)

Dust: (Ex II 3 D Ex to IIIC T85°C Dc (Group IIIC Zone 22) UL 24 ATEX 3240X IECEx UL 24.0047X

#### U.S. and Canadian Zone Certification

Only non-audible K100 Pro Beacon models with 2 m integral cable Must be enclosed with a protected conduit or suitable

Must be enclosed with a protected conduit or suitable enclosure as detailed in the specific conditions of use Class I Zone 2, AEx ec IIC T4 Gc Class I Zone 2, Ex ec IIC T4 Gc Zone 22, AEx tc IIIB T85°C Dc Zone 22, Ex tc IIIB T85°C Dc



#### **Pro Editor Configuration**

Connection to Pro Editor software enables control of:

- Animation: On, Flash, Rotate, Two Color Flash, Two Color Cycle, Intensity Sweep
- · Color: Green, Yellow, Red, Blue
- · Wiring: See
- Intensity: Low, Medium, High
- · Speed: Slow, Standard, Fast

Slow Flash: 0.5 Hz Standard Flash: 1.0 Hz Fast Flash: 5.0 Hz Slow Rotate: 80 rpm Standard Rotate: 120 rpm Fast Rotate: 160 rpm

 Audible Tones: Pulse, Wobble, Strobe, Whoop, Staccato, Siren, Continuous 1, Continuous 2, Jingle, Melody 1, Melody 2, Melody 3

Pro Converter Cable required to interface between PC and indicator, see accessories

Full Preview Connection and Pro Editor software are not approved for use in any potentially explosive environment. Ensure the configuration of the K100 Beacon before installing or operating in a potentially explosive environment.

#### **Default Indicator Characteristics**

At 12 V DC

Color	Dominant Wavelength (nm) or Color	Co Coordin		Lumen Output (Typical at 25
	Temperature (CCT)	x	у	°C)
Green	528 nm	0.1603	0.6973	360
Yellow	589 nm	0.5557	0.4276	525
Red	625 nm	0.6999	0.2982	155
Blue	475 nm	0.1167	0.1121	165
White	5000K	0.332	0.3433	600

Lumen Output decreases by 15% at 48 V DC

Internal temperature compensation circuitry: Reduces the Lumen Output to decrease the unit internal operating temperature. The amount of reduction is dependent on the ambient operating temperature, supply voltage, color, and/or audible functions being utilized.

#### Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

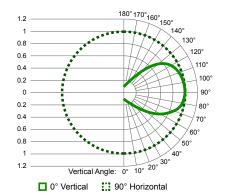
Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	1.0	30	0.5

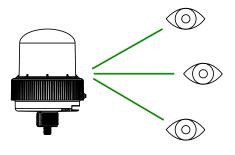
### Photometric Data

Multiply the values shown in the chart by the maximum candela values in the Max. Candela table:

 $<sup>^{\</sup>rm (8)}$  Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.

### Polar Candela Distribution





#### Base Candela

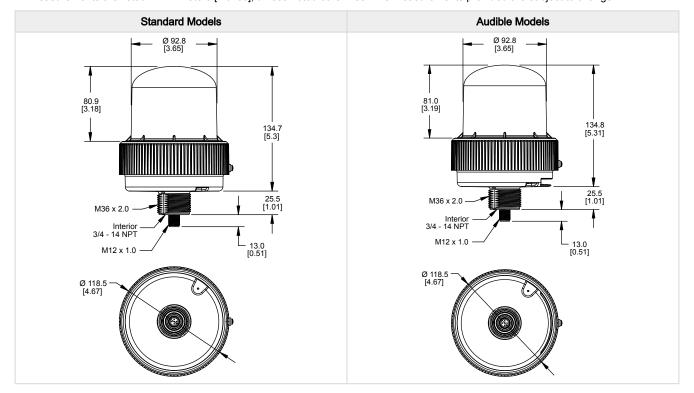
Green	46
Yellow	67
Red	20
Blue	21
White	76

### Candela Viewing Angle Example – Red

Angle	Factor	Base <sup>(9)</sup>	Candela
120 (top view)	0.7	20	14
90 (side view)	1	20	20
60 (bottom view)	0.7	20	14

### **Dimensions**

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.



<sup>(9)</sup> Red shown. See Base Candela table.

### Accessories

### Pro Editor Hardware

IMPORTANT: Full Preview Connection and Pro Editor software are not approved for use in any potentially explosive environment. Ensure the configuration of the K100 before installing or operating in a potentially explosive environment.

#### MQDC-506-USB

- · Pro Converter Cable
- 1.83 m (6 ft) length 5-pin M12 quick disconnect to Device and USB to PC
  Required for connection to the configuration software



#### CSB-M1251FM1251M

- 5-pin parallel Y splitter (Male-Male-Female)
   For full Pro Editor preview capability
- Requires external power supply, sold separately



#### PSW-24-1

- · 24 V DC, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12 quick disconnect
- · Provides external power with splitter cable, sold separately



#### ACC-PRO-CABLE5

- Mating accessory for cabled and terminal models
   150 mm (6 inch) PVC cable with M12 quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models and screw terminal models to Pro Converter Cable, sold separately



### Cordsets

MQDC1-5xx specifications:

- AWM (UL 2517) 22 AWG, 105 °C, 300 V
- Jacket & Conductor Insulation: PVC
- · Jacket Diameter: 5.6 mm

5-Pin Threaded M12 Cordsets—Single Ended							
Model	Length	Style	Dimensions	Pinout (Female)			
MQDC1-501.5	0.5 m (1.5 ft)						
MQDC1-503	0.9 m (2.9 ft)		44 Typ.——	1			
MQDC1-506	2 m (6.5 ft)			1 = Brown 2 = White 3 = Blue			
MQDC1-515	5 m (16.4 ft)	Straight	Straight				
MQDC1-530	9 m (29.5 ft)		M12 x 1				
MQDC1-560	18 m (59 ft)		Ø 14.5 4 = BI 5 = Gi				
MQDC1-5100	31 m (101.7 ft)						

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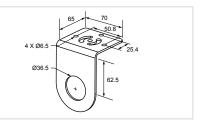
#### Continued from page 8

5-Pin Threaded M12 Cordsets—Single Ended							
Model	Length	Style	Dimensions	Pinout (Female)			
MQDC1-506RA	2 m (6.5 ft)		32 Тур.				
MQDC1-515RA	5 m (16.4 ft)		[1.26"]				
MQDC1-530RA	9 m (29.5 ft)						
MQDC1-560RA	19 m (62.3 ft)	Right-Angle	30 Typ. [1.18"]  M12 x 1				

### **Brackets**

#### LMB36RA

- Indicator light right-angle mounting36 mm mounting hole
- · Stainless steel



# **Elevated Mount System**

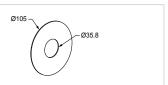
	Model			Components	
Black Anodized Aluminum ¾ in. NPT	Black Anodized Aluminum ½ in. NPT	Clear Anodized Aluminum 1/2 in. NPT	Features		
<b>SOP-E34-150A</b> 150 mm (6 in) long	<b>SOP-E12-150A</b> 150 mm (6 in) long	<b>SOP-E12-150AC</b> 150 mm (6 in) long			
<b>SOP-E34-300A</b> 300 mm (12 in) long	<b>SOP-E12-300A</b> 300 mm (12 in) long	<b>SOP-E12-300AC</b> 300 mm (12 in) long	<ul> <li>Elevated-use stand-off pipe</li> <li>Black anodized aluminum or clear anodized aluminum surface</li> </ul>		
<b>SOP-E34-600A</b> 600 mm (24 in) long	<b>SOP-E12-600A</b> 600 mm (24 in) long	_	<ul><li>Threaded at both ends</li><li>Compatible with most industrial environments</li></ul>		
<b>SOP-E34-900A</b> 900 mm (36 in) long	<b>SOP-E12-900A</b> 900 mm (36 in) long	<b>SOP-E12-900AC</b> 900 mm (36 in) long			

Pipe Mounting Flange						
Model	Description	Construction				
SA-F12	Elevated-use stand-off pipes (½ in, NPSM/ DN15)     M5 mounting hardware and nitrile gasket included	Die-cast zinc base with black paint	1/2-14 NPSM			

# Shields

#### 105 mm Protective Shield

- Impact protection
  Stainless steel
  See "Specific Conditions for Use and General Notes" on page 2 and "Mechanical Installation" on page 3



# Repairs and Translations

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at <a href="https://www.bannerengineering.com">www.bannerengineering.com</a> or contact Banner directly at (763) 544-3164.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local our appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

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# Banner Engineering Corp Limited Warranty

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