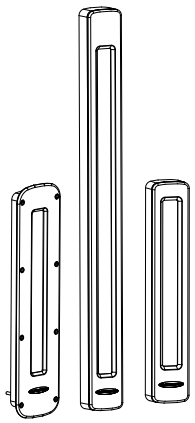
WLC60 Heavy Duty LED Light

Datasheet



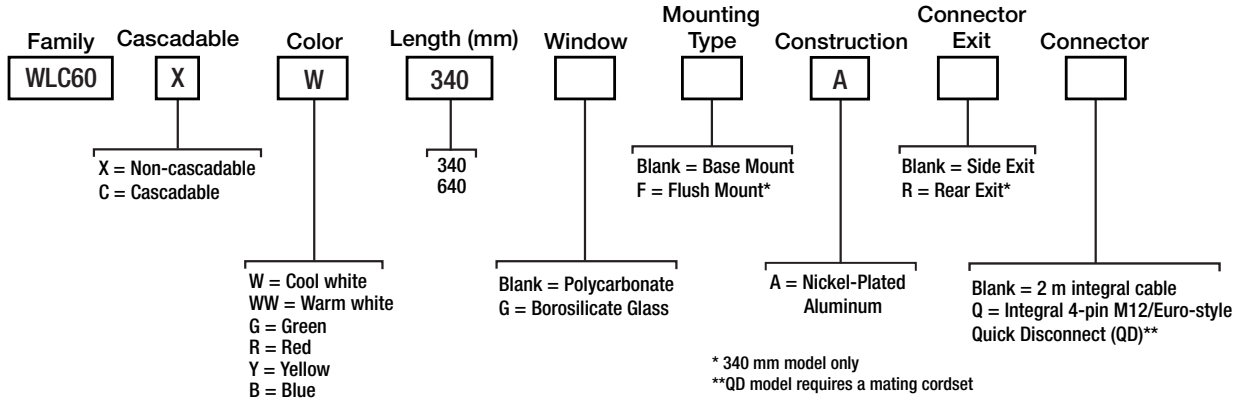
Banner's WLC60 Heavy Duty Lights are engineered to withstand harsh environments, making it the first choice for a machine lighting solution. A conservative mechanical design protects against liquid ingress and state-of-the-art LED technology delivers best of class brightness.
Choose between a durable polycarbonate window or a borosilicate glass (BSG) option featuring enhanced chemical and thermal resistance. This smart industrial lighting solution also features energy efficient eco-mode dimming states to tailor the lumen levels and power consumption to the application.

- Rugged and durable for harsh environments
- Oil, chemical, and water resistant with IEC IP67, JIS C IP68G, and IP69K per DIN 40050-9 ratings
- High brightness paired with advanced glare-reducing optics
- Easy to install with a wide variety of mounting solutions
- Highly resistant to vibration and shock
- Input voltage of 12 V dc to 30 V dc
- Integral 4-pin M12/Euro-style quick disconnect connector
- Models have four discrete intensity level settings

Important: Read the following instructions before operating the light. Please download the complete WLC60 Heavy Duty LED Light technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

Important: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los WLC60 Heavy Duty LED Light, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

Models



Sample Model	Description
WLC60XW340AQ	Non-cascadable, cool white color, 340 mm with polycarbonate window, base mount, and nickel-plated aluminum construction. Side exit connection with integral 4-pin M12/Euro-style quick disconnect.
WLC60CG340GAR	Cascadable, green color, 340 mm with borosilicate glass window, base mount, and nickel-plated aluminum construction. Rear exit connection with 2 m integral cable.

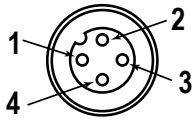
Spacing Criteria (SC)

The spacing criteria is the fixture-spacing-to-mounting-height ratio and aids in laying out a pattern of fixtures. Multiply the spacing criteria by the mounting height to get the maximum fixture spacing that still provides even illumination (no shadowing between fixtures).

Luminaire Spacing = SC × Height to Illuminated Plane

The mounting height is the distance from the fixture to the surface you are lighting.

Wiring Diagram



Key

Pin 1 Brown: 12-30 V dc
Pin 3 Blue: dc Common
Pin 4 Black: Connect to 12-30V dc for 66% max. intensity
Pin 2 White: Connect to 12-30 V dc for 33% max. intensity
Pins 4 and 2 Black and White: Connect to 12-30 V dc for 50% intensity

For maximum intensity, leave the white and black wires floating or connected to common.

Specifications

Supply Voltage
12 V dc to 30 V dc
Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)
See electrical characteristics on product label

Supply Current

Length (mm)	Color	Max. Current Draw	Typical Current Draw
340	White, Warm White	1.53A at 12 V dc	1.38A at 12 V dc
		0.68A at 24 V dc	0.62A at 24 V dc
		0.55A at 30 V dc	0.49A at 30 V dc
	Green, Blue	1.46A at 12 V dc	1.32A at 12 V dc
		0.63A at 24 V dc	0.58A at 24 V dc
		0.51A at 30 V dc	0.46A at 30 V dc
	Red, Yellow	1.03A at 12 V dc	0.94A at 12 V dc
		0.49A at 24 V dc	0.44A at 24 V dc
		0.40A at 30 V dc	0.36A at 30 V dc
640	White, Warm White	3.34A at 12 V dc	3.04A at 12 V dc
		1.37A at 24 V dc	1.25A at 24 V dc
		1.10A at 30 V dc	1.00A at 30 V dc
	Green, Blue	3.24A at 12 V dc	2.95A at 12 V dc
		1.30A at 24 V dc	1.19A at 24 V dc
		1.05A at 30 V dc	0.95A at 30 V dc
	Red, Yellow	2.14A at 12 V dc	1.95A at 12 V dc
		0.97A at 24 V dc	0.88A at 24 V dc
		0.79A at 30 V dc	0.71A at 30 V dc

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

Test Data
LM-79, LM-80, TM-21

Construction
Nickel plated aluminum housing
Polycarbonate or borosilicate glass window

Connections
Integral 4-pin M12/Euro-style male quick disconnect (QD) or 2 m (6.5 ft) integral cable
Mating cordset required for QD models

Vibration and Mechanical Shock
Vibration: 10 Hz to 55 Hz, 1.0 mm peak-to-peak amplitude per IEC 60068-2-6
Shock: 15G 11 ms duration, half sine wave per IEC 60068-2-27

Storage Temperature
–40 °C to +70 °C (–40 °F to +158 °F)

Application Notes
When connecting cascadable lights in series, it is important not to exceed the maximum current limitation of 4 Amps.

Input Voltage	Max. Number of Units	
	340 mm Models	640 mm Models
12 V dc	2	1
24 V dc	5	2
30 V dc	7	3

Light Characteristics
White and Warm White Efficacy: 87 lumens/watts typical at 24 V dc at 25 °C
CRI: 80, minimum

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Lumens (Typical at 25 °C)	
		340 mm	640 mm
Cool White	6200K (+500, -550K)	1300	2600
Warm White	3000K (+200, -150K)	1300	2600
Green	528 nm (+7, -8 nm)	855	1710
Red	625 nm (± 5 nm)	525	1050
Yellow	590 nm (± 5 nm)	370	740
Blue	475 nm (± 10 nm)	340	680

LED Lifetime
Lumen Maintenance - L_{70}
When operating within specifications, output will decrease less than 30% after 60,000 hours

Spacing Criterion
0.86

Operating Temperature
–40 °C to +50 °C (–40 °F to +122 °F) at the max. intensity setting
–40 °C to +70 °C (–40 °F to +158 °F) at any of the dim settings

Environmental Rating
IEC IP67, JIS C IP68G, IP69K per DIN 40050-9

Certifications

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 (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

Dimensions for WLC60 340 mm Models

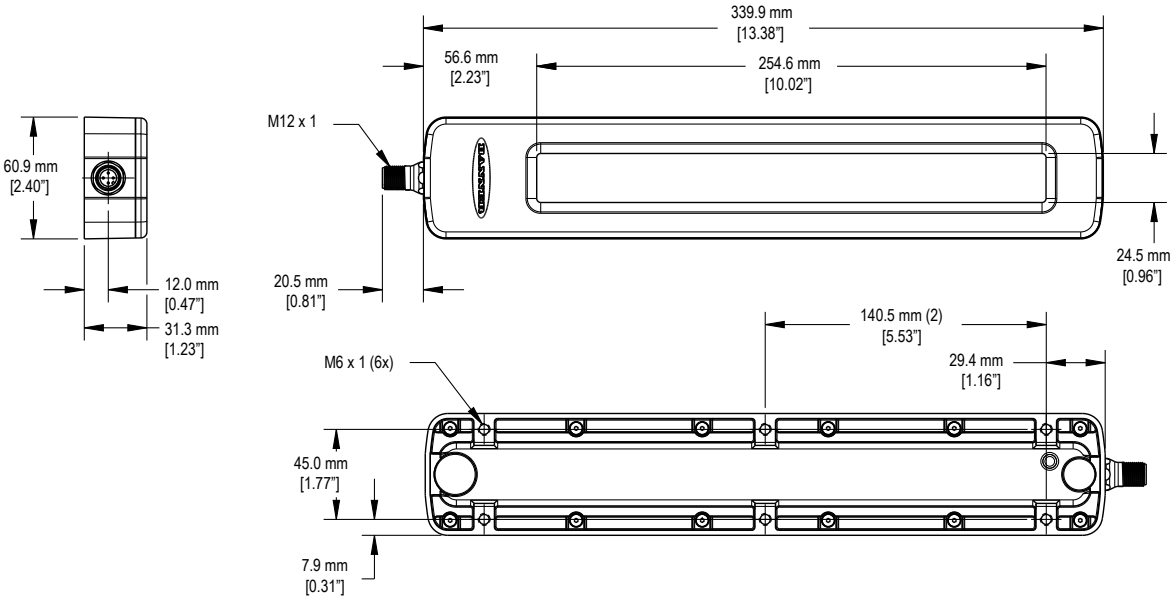


Figure 1. WLC60 (340 mm) Base Mount Side Exit Models

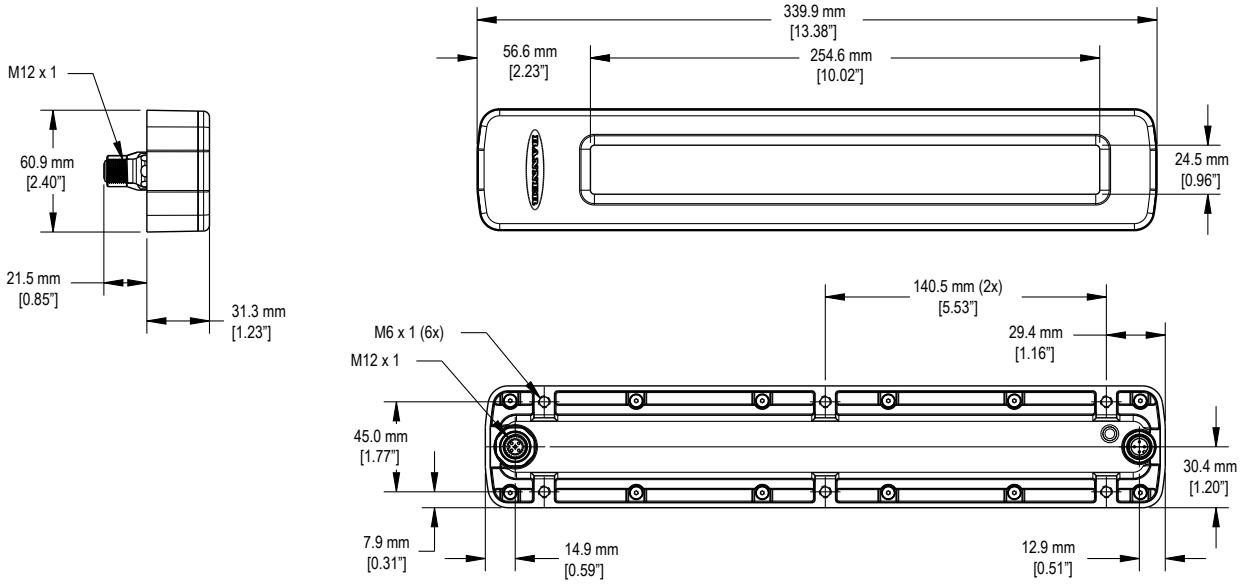


Figure 2. WLC60 (340 mm) Base Mount Rear Exit Models

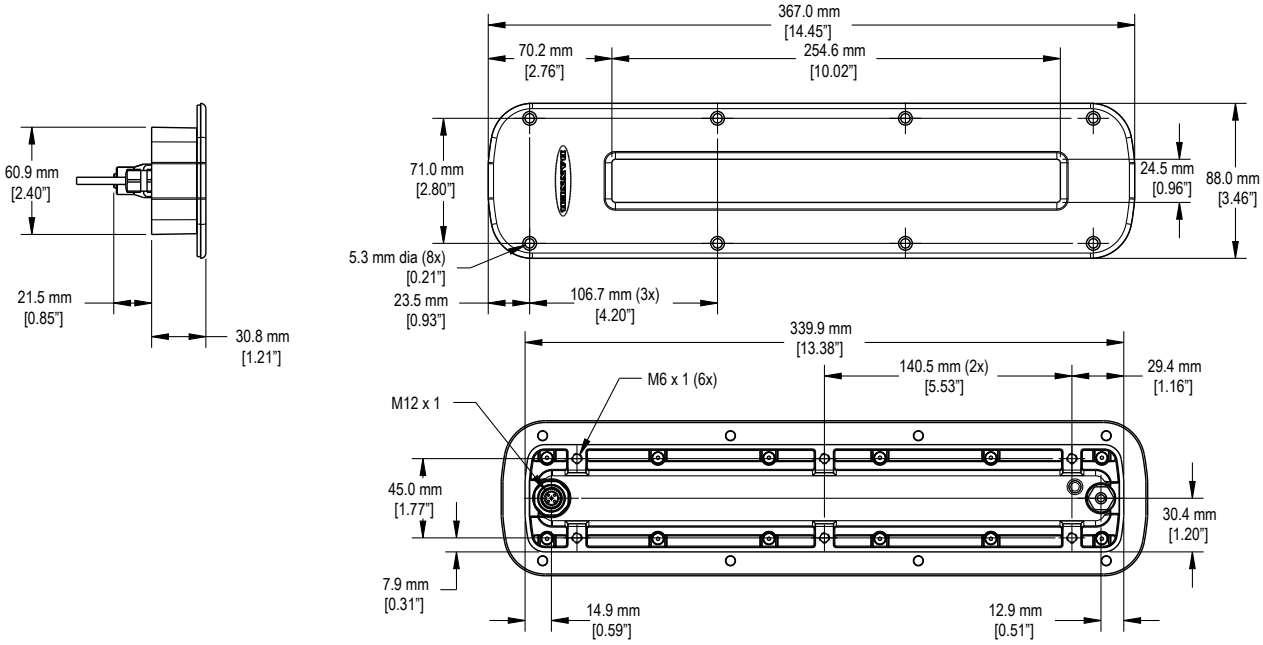


Figure 3. WLC60 (340 mm) Flush Mount Models

Dimensions for WLC60 640 mm Models

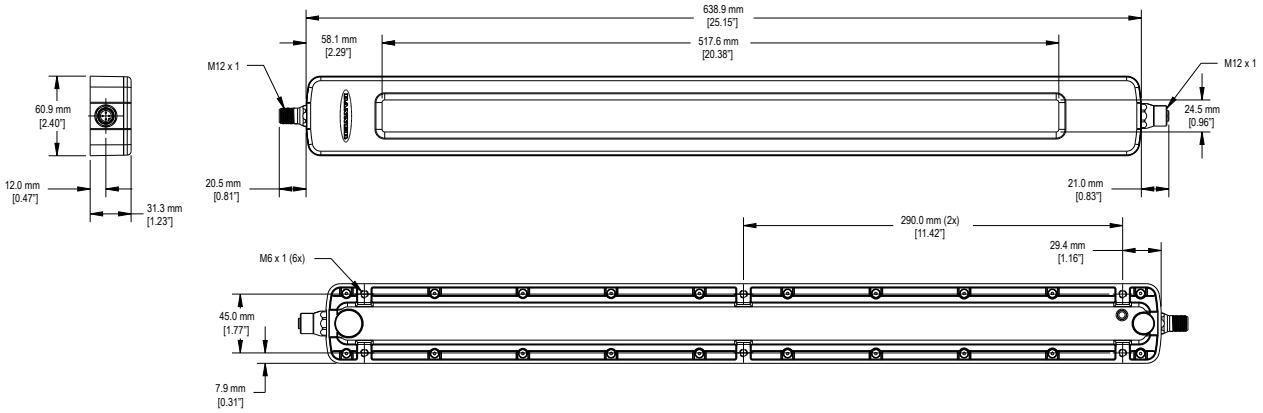


Figure 4. WLC60 (640 mm) Base Mount Side Exit Models Dimensions

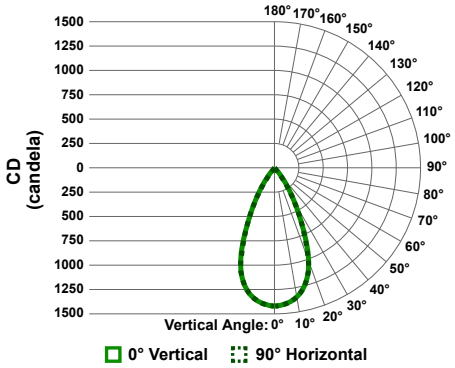
Performance Curves

Optical data shown below is for cool white only. To get lux and candela values for warm white, green, red, yellow, and blue, multiply the values on the charts by the following factors:

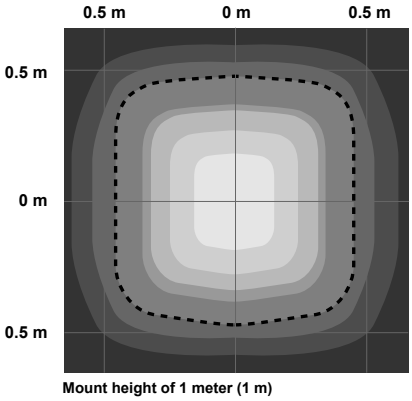
Warm White: 1.000
Green: 0.657
Red: 0.404
Yellow: 0.285
Blue: 0.262

340 mm Models

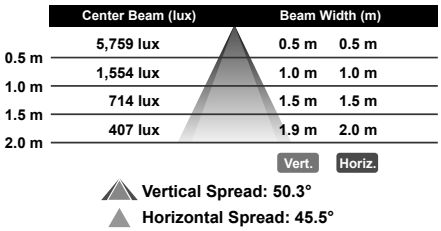
Polar Candela Distribution



Isolux Pattern

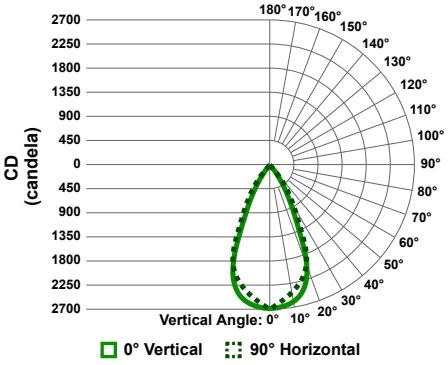


Illuminance at a Distance

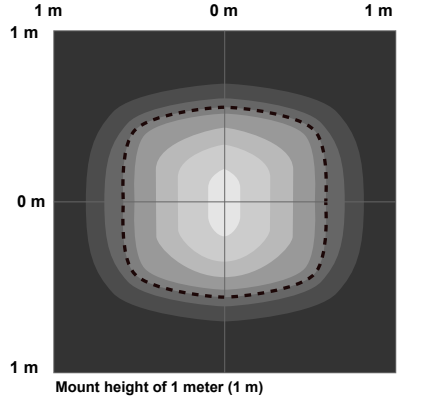


640 mm Models

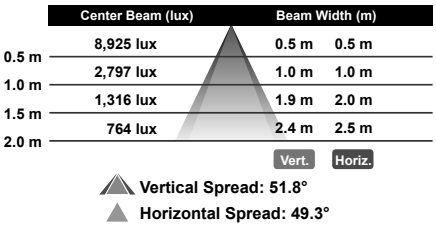
Polar Candela Distribution



Isolux Pattern



Illuminance at a Distance

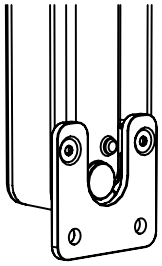


Accessories

Brackets

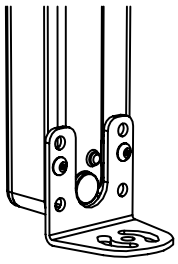
LMBWLC60F

- Set of two flat brackets
- 300 series stainless steel
- Includes M6 flathead screws for mounting to light
- Clearance for M6 or 1/4-20 mounting hardware



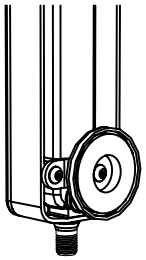
LMBWLC60RA

- Set of two right-angle brackets
- 300 series stainless steel
- Includes M6 button head screws for mounting to light
- Clearance for M6 or 1/4-20 mounting hardware



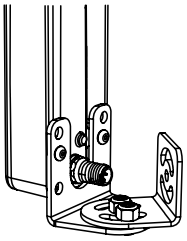
LMBWLC60MAG

- Magnetic mounting kit (set of two)
- Two inch magnets
- Mounting hardware included



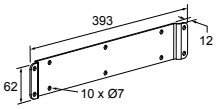
LMBWLC60RAS

- Pair of two swivel mount, right-angle brackets
- 300 series stainless steel
- Includes hardware for mounting to light



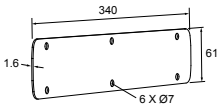
LMBWLC60B340

- Plate for sealing the cavity on the back of the 340 mm models
- 300 series stainless steel
- Includes hardware for mounting to the light



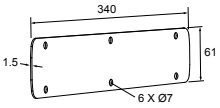
ACC-WLC60-340-GSK-FDA-1

- Blue FDA-approved silicone gasket
- Thickness: 1.6 mm

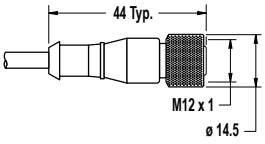
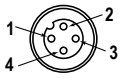
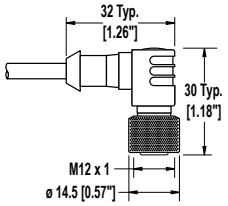


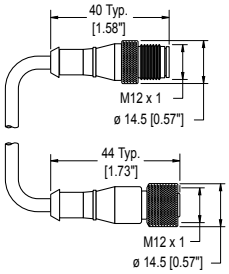
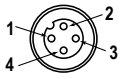
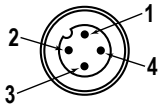
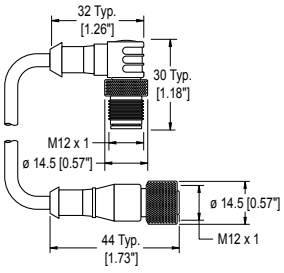
ACC-WLC60-340-GSK-N-1

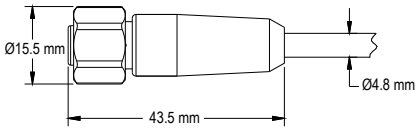
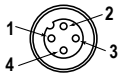
- Black nitrile gasket
- Thickness: 1.5 mm

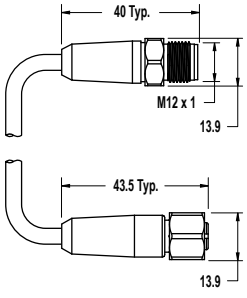
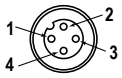
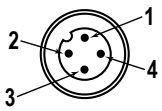


Cordsets

4-Pin Threaded M12/Euro-Style Cordsets—Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-406	1.83 m (6 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			
MQDC-406RA	1.83 m (6 ft)	Right-Angle		
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

4-Pin Threaded M12/Euro-Style Cordsets—Double Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (3 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30 ft)			
MQDEC-450SS	15.2 m (50 ft)			
MQDEC-403RS	0.91 m (1 ft)	Male Right-Angle/ Female Straight		
MQDEC-406RS	1.83 m (3 ft)			
MQDEC-412RS	3.66 m (12 ft)			
MQDEC-420RS	6.10 m (20 ft)			
MQDEC-430RS	9.14 m (30 ft)			
MQDEC-450RS	15.2 m (50 ft)			

4-Pin Threaded M12/Euro-Style Cordsets—Washdown, Stainless Steel, Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-WDSS-0406	1.83 m (6 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-WDSS-0415	4.57 m (15 ft)			
MQDC-WDSS-0430	9.14 m (30 ft)			

4-Pin Threaded M12/Euro-Style Cordsets—Double Ended, Washdown, Stainless Steel				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
MQDEC-WDSS-401SS	0.3 m (1 ft)	Male Straight/Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-WDSS-403SS	0.91 m (3 ft)			
MQDEC-WDSS-406SS	1.83 m (6 ft)			
MQDEC-WDSS-412SS	3.66 m (12 ft)			

Banner Engineering Corp. Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

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For patent information, see www.bannerengineering.com/patents.

Mexican Importer

Banner Engineering de Mèxico, S. de R.L. de C.V.
David Alfaro Siqueiros 103 Piso 2 Valle oriente
San Pedro Garza Garcia Nuevo Leòn, C. P. 66269

81 8363.2714

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