

Thermowells for RTD Probes with M12 Cable Connector



Overview

- All thermowells are pre-built stock items
- Thermowells for ProSense RTD probes with M12 cable connector
- All wetted parts are 316 stainless steel
- 600°F (315°C) temperature and 232 psi (16 bar) pressure rating
- CF06-25N or CF10-50N fitting required to mount RTD probes in thermowell
- 3-Year warranty

Thermowells for RTD Probes with M12 Cable Connector										
Part Number	Pcs/Pkg	Wt(lb)	Price	I.D.	Overall Length	Male Process Threads	Female Probe Threads	Wetted Material	Temperature/Pressure Rating	Use With
RTDTW-06-010-50N	1	0.10	<--->	7 mm (0.28")	113 mm (4.4")	1/4" NPT	1/4" NPT	316 SS	600°F (315°C) max; 232 psi (16 bar) max	RTD0100-06-010-H CF06-25N
RTDTW-06-020-50N	1	0.20	<--->		213 mm (8.4")					RTD0100-06-020-H CF06-25N
RTDTW-06-030-50N	1	0.30	<--->		313 mm (12.3")					RTD0100-06-030-H CF06-25N
RTDTW-10-010-50N	1	0.10	<--->	11 mm (0.43")	92 mm (3.62")	1/2" NPT	1/2" NPT	316 SS	600°F (315°C) max; 232 psi (16 bar) max	RTD0100-10-010-H CF10-50N
RTDTW-10-020-50N	1	0.15	<--->		192 mm (7.55")					RTD0100-10-020-H CF10-50N
RTDTW-10-030-50N	1	0.22	<--->		292 mm (11.48")					RTD0100-10-030-H CF10-50N
RTDTW-10-050-50N	1	0.10	<--->		492 mm (19.37")					RTD0100-10-050-H CF10-50N



NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE THERMOWELL'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.
www.automationdirect.com/static/specs/prosensechemresistance.pdf



NOTE: RESPONSE TIME IS REDUCED WHEN INSTALLED IN A THERMOWELL. BE SURE TO INSTALL THE PROBE SO THAT IT CONTACTS THE END OF THE THERMOWELL FOR FASTER RESPONSE.. THERMAL COMPOUND MAY BE USED DEPENDING ON APPLICATION

RTD & Thermowell Assembly Example

RTDTW Series Thermowell



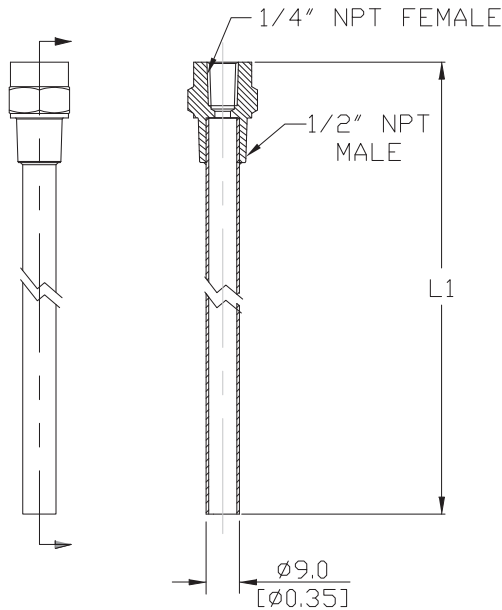
RTD0100 Series Probe

CF06-25N or CF10-50N Compression Fitting

Note: Once tightened compression fitting cannot be re-adjusted

Thermowells for RTD Probes with M12 Cable Connector

RTDTW-06 Series Dimensions



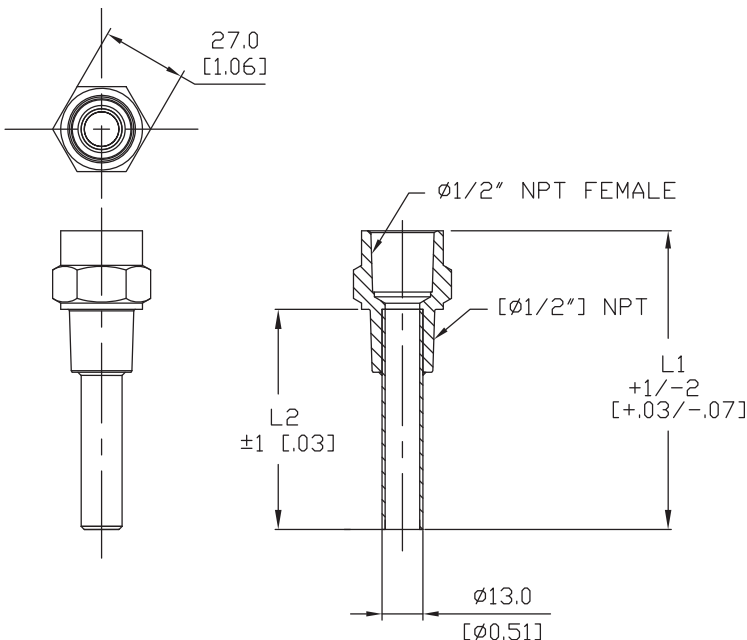
Part Number	L1
RTDTW-06-010-50N	113 mm [4.4]
RTDTW-06-020-50N	213 mm [8.4]
RTDTW-06-030-50N	313 mm [12.3]

Torque threads to 40 lb-ft [54.23 Nm]*

Dimensions shown mm [inches]

*** Torque values are for reference. Actual torque required for a proper seal of NPT threads is influenced by tolerance, sealant, lubricant, etc.**

RTDTW-10 Series Dimensions



Part Number	L1	L2
RTDTW-10-010-50N	92 mm [3.62]	70 mm [2.75]
RTDTW-10-020-50N	192 mm [7.55]	170 mm [6.69]
RTDTW-10-030-50N	292 mm [11.48]	270 mm [10.6]
RTDTW-10-050-50N	492 mm [19.37]	470 mm [18.47]

Torque threads to 40 lb-ft [54.23 Nm]*

Dimensions shown mm [inches]

Sensors Accessories: Cables

Cables with quick-disconnect plugs

- Industry standard axial and right-angle M8/M12 screw-lock connectors with open leads. The cables listed can be used with patch cables
- 2m, 5m, 7m and 10m cable lengths
- PVC (polyvinyl chloride) jacket for typical industrial applications
- PUR (polyurethane) jacket for oily and direct sunlight applications
- IP67 rated

M8 Quick-Disconnect Cables (Pico, Nano)

Part Number	Price	Length	Poles	Connector	LED	Jacket	Dimensions
M8 Quick-Disconnects							
CD08-0A-020-A1	<---	2m (6.5ft.)	3	Axial	No	PVC	Figure 1
CD08-0A-020-C1	<---	2m (6.5ft.)	3	Right-angle	No	PVC	Figure 2
CD08-0A-050-A1	<---	5m (16.4ft.)	3	Axial	No	PVC	Figure 4
CD08-0C-050-A1	<---	5m (16.4ft.)	3	Axial	No	PUR	Figure 3
CD08-0A-050-C1	<---	5m (16.4ft.)	3	Right-angle	No	PVC	Figure 5
CD08-0C-050-C1	<---	5m (16.4ft.)	3	Right-angle	No	PUR	Figure 5
CD08-0A-070-A1	<---	7m (23ft.)	3	Axial	No	PVC	Figure 1
CD08-0A-070-C1	<---	7m (23ft.)	3	Right-angle	No	PVC	Figure 2

M12 Quick-Disconnect Cables (Euro, Micro DC-Single Key)

Part Number	Price	Length	Poles	Connector	LED	Jacket	Dimensions
M12 Quick-Disconnects							
CD12L-0B-020-A0	<---	2m (6.5ft.)	4	Axial	No	PVC	Figure 6
CD12L-0B-020-C0	<---	2m (6.5ft.)	4	Right-angle	No	PVC	Figure 7
CD12M-0B-050-A1*	<---	5m (16.4ft.)	3	Axial	No	PVC	Figure 8
CD12M-0D-050-A1*	<---	5m (16.4ft.)	3	Axial	No	PUR	Figure 9
CD12M-0B-050-C1*	<---	5m (16.4ft.)	3	Right-angle	No	PVC	Figure 10
CD12M-0D-050-C1*	<---	5m (16.4ft.)	3	Right-angle	No	PUR	Figure 11
CD12M-0B-070-A1	<---	7m (23ft.)	4	Axial	No	PVC	Figure 6
CD12M-0B-070-C1	<---	7m (23ft.)	4	Right-angle	No	PVC	Figure 7

* Note: Do not use with: DM, FA, QX, SS, SSF, SU, TU, VM, VK, MV, MS or MSF series sensors. These sensors require 4-pole cables.

Cables with LED and quick-disconnect plugs

- Industry standard M12 right angle female plug with open leads
- These cables can be used with patch cables
- 2m, 5m and 10m cable lengths
- PUR (polyurethane) jacket for oily and direct sunlight applications
- IP67 / IP68 / IP69K, II rated
- LED indication for 10 -36 VDC PNP sensors only

M12 Quick-Disconnect Cables with LED Indicator (Euro, Micro DC-Single Key)

Part Number	Price	Length	Poles	Connector	LED	Jacket	Dimensions
M12 Quick-Disconnects							
EVC178*	<---	2m (6.5ft.)	4	Right-angle	Yes	PUR	Figure 12
EVC179*	<---	5m (16.4ft.)	4	Right-angle	Yes	PUR	Figure 12
EVC180*	<---	10m (32.8ft.)	4	Right-angle	Yes	PUR	Figure 12

*Note: LED for 10 to 36 VDC PNP only.
Do not use when white wire (Pin 2) is used for selection of a sensor function.



CD08-0A-020-A1 and -C1 shown



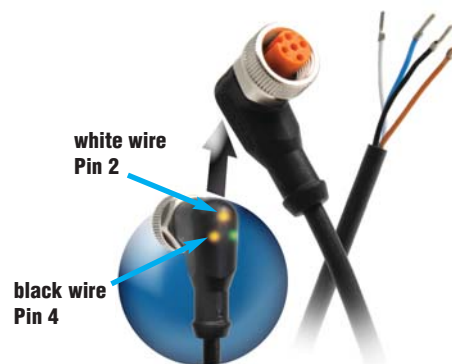
CD08-0A-050-A1 and -C1 shown



CD12L-0B-020-A0 and -C0 shown



CD12M-0B-050-C1 and -A1 shown



LED Models' Wiring



PNP—NORMALLY OPEN

Sensors Accessories: Cables

Cable Specifications					
Specification	M8		M12		M12 with LED
Length	2m (6.5ft) / 7m (23ft)	5m (16.4ft)	2m (6.5ft) / 7m (23ft)	5m (16.4ft)	2m (6.5 ft) / 5m (16.4ft) / 10m (32.8ft)
Nominal Voltage	50VAC/75VDC	60VAC/DC	300VAC	250VAC/DC	10 to 36VDC
Max Current	4A		4A		4A
LED Current Loading	N/A	N/A	N/A	N/A	10V input Brown wire LED: 1.7mA White and/or Black LED: 0.9mA 36V input Brown wire LED: 7.3mA White and/or Black LED: 4.7mA
Protection Degree	IP67	IP65 / IP68 / IP69K	IP67	PVC: IP68 PUR: IP68 / IP69K	IP67 / IP68 / IP69K
Material Nut	brass; nickel plated		brass; nickel plated		brass; nickel plated
Jacket Material	PVC	PVC:CD08-0A-xxx. PUR:CD08-0C-xxx	PVC	PVC:CD12M-0B-xxx. PUR:CD12M-0D-xxx	PUR
Housing Material	PUR		PUR		PUR
Contacts Material	Copper-Tin Alloy (CuSn) -gold plated		Copper-Tin Alloy (CuSn) -gold plated		Gold plated brass
Tightening Torque	0.5 Nm	≤ 0.4 Nm	0.5 Nm	≤ 0.4 Nm	0.6 to 1.5 Nm
Conductors Cross Section (AWG)	0.25mm ² (24 AWG)	0.25mm ² (24 AWG)	0.25mm ² (24 AWG)	0.34mm ² (22 AWG)	4 x 0.34mm ² (4 x 22 AWG)
Ø Outer Cable	5mm	PVC: 4 mm PUR: 4 mm	5mm	PVC: 4.2 mm PUR: 4.3 mm	5mm
Temperature Range	-25° to +80°C (-13° to 176°F)	-25° to 90°C (-13° to 194°F)	-25° to +80°C (-13° to 176°F)	PVC: -30° to 70°C (-22° to 158°F) PUR: -50° to 90°C (-58° to 194°F)	-25° to +90°C (-13° to 194°F)
Environmental	N/A	Halogen free, Silicone free	N/A	Halogen free, Silicone free	Halogen free, Silicone free
Function Display Power LED	N/A	N/A	N/A	N/A	Green
Switching Status LED	N/A	N/A	N/A	N/A	2 x Yellow
Drag Chain (Roller Cable Tray) Suitability	Bending Radius	min. 10 x cable diameter			
	Bending Cycles	N/A	N/A	N/A	>5 million
	Travel Speed	N/A	N/A	N/A	Max. 3.3 m/s for a horizontal travel length of 5 meters and max. acceleration of 5 m/s ²
	Torsional Strain	N/A	N/A	N/A	±180°/m
Agency Approvals	RoHS				UL File E191684, RoHS

UL Reference	
Part Number	Mini-Series Female Cord Connectors Series M12, UL Catalog Number
EVC178	ADOAH043MSS0002H04
EVC179	ADOAH043MSS0005H04
EVC180	ADOAH043MSS0010H04
Note: Shown in UL file under Mini-series Female Cord Connectors using catalog number	

Sensors Accessories: Cables

Dimensions (in/mm)

Figure 1

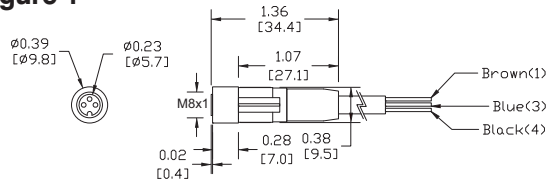


Figure 2

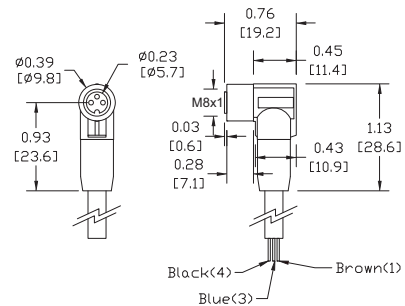


Figure 3

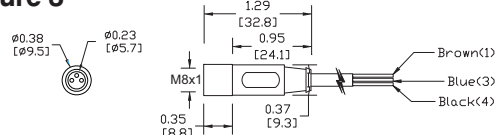


Figure 4

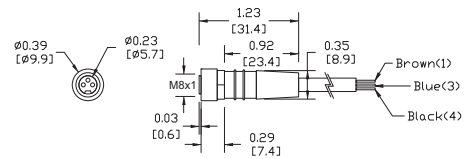


Figure 5

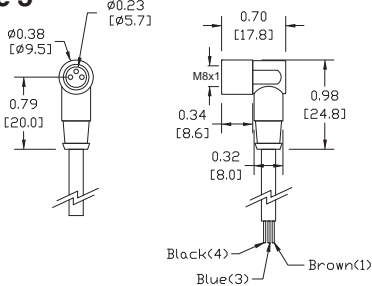
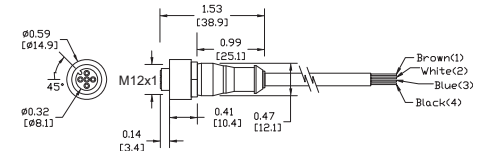


Figure 6



FP0

Figure 7

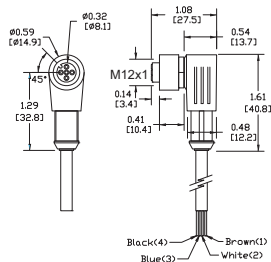


Figure 8

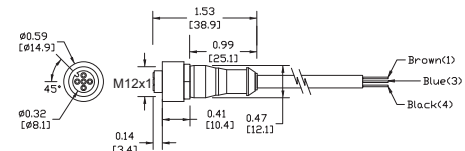


Figure 9

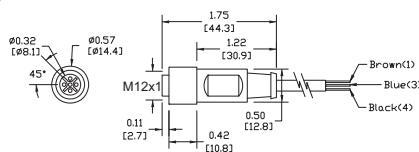


Figure 10

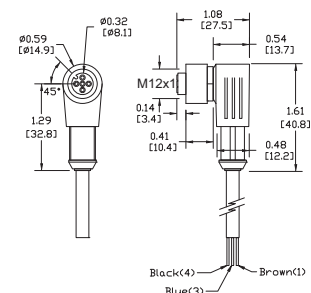


Figure 11

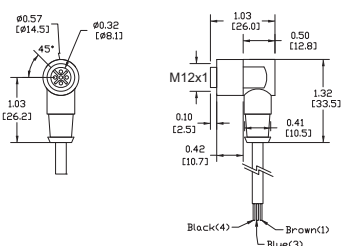
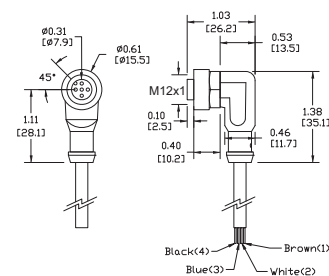


Figure 12



Sensors Accessories: Cables

Patch cables with quick-disconnect plugs on each end

Available patch cables include:

- Industry standard M8 and M12 screw-lock connectors

- One male and one female connector
- Axial and right-angle connector models
- 1m and 3m cable lengths
- PVC (polyvinyl chloride) jacket for typical industrial applications
- IP67 rated



M8 Patch Cables with Quick-Disconnect on Each End (Pico, Nano)						
Part Number	Price	Length	Poles	Connectors	Jacket	Dimensions
M8 Quick-Disconnect Patch Cables						
CDP08-0A-010-AA	<---	1m (3.28ft)	3	2 Axial. One male and one female connector	PVC	Figure 1
CDP08-0A-010-BB	<---	1m (3.28ft)	3	2 Right-angle. One male and one female connector	PVC	Figure 3
CDP08-0A-030-AA	<---	3m (9.84ft)	3	2 Axial. One male and one female connector	PVC	Figure 2
CDP08-0A-030-BB	<---	3m (9.84ft)	3	2 Right-angle. One male and one female connector	PVC	Figure 3

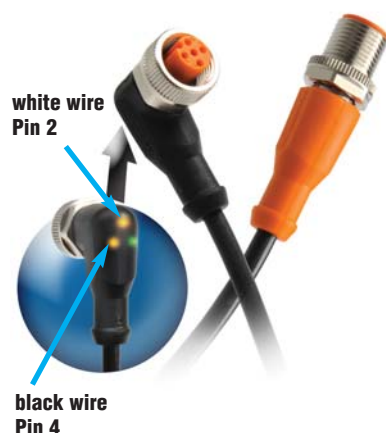
M12 Patch Cables with Quick-Disconnect on Each End (Euro, Micro DC-Single Key)						
Part Number	Price	Length	Poles	Connectors	Jacket	Dimensions
M12 Quick-disconnect Patch Cables						
CDP12-0B-010-AA	<---	1m (3.28ft)	4	2 Axial. One male and one female connector	PVC	Figure 4
CDP12-0B-010-BB	<---	1m (3.28ft)	4	2 Right-angle. One male and one female connector	PVC	Figure 5
CDP12-0B-030-AA	<---	3m (9.84ft)	4	2 Axial. One male and one female connector	PVC	Figure 4
CDP12-0B-030-BB	<---	3m (9.84ft)	4	2 Right-angle. One male and one female connector	PVC	Figure 5

Patch Cables with LED

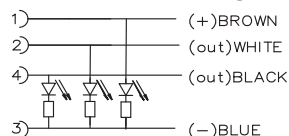
Available patch cables with LED include:

- Right-angle M12 female plug with LED indication on one end and axial male plug on the other end
- 0.3m, 0.6m, 1m, 2m, 5m, and 10m cable lengths

- PUR (polyurethane) jacket for oily and direct sunlight applications
- IP67 / IP68 / IP69K, II rated
- LED indication for 10 -36 VDC PNP sensors only



LED Models' Wiring



PNP—NORMALLY OPEN

M12 Patch Cables with LED Indicator (Euro, Micro DC-Single Key)							
Part Number	Price	Length	Poles	Connectors	LED	Jacket	Dimensions
M12 Patch Cables							
EVC322*	<---	0.3m (0.98ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6
EVC323*	<---	0.6m (1.97ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6
EVC324*	<---	1m (3.28ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6
EVC325*	<---	2m (6.5ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6
EVC326*	<---	5m (16.4ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6
EVC327*	<---	10m (32.8ft)	4	Right-angle female, axial male	Yes	PUR	Figure 6

Note: LED for 10 to 36 VDC PNP only.

Do not use when white wire (Pin 2) is used for selection of a sensor function.

Company
InformationSystems
OverviewProgrammable
Controllers

Field I/O

Software

C-more &
other HMI

Drives

Soft
StartersMotors &
GearboxSteppers/
ServosMotor
ControlsProximity
SensorsPhoto
SensorsLimit
Switches

Encoders

Current
SensorsPressure
SensorsTemperature
SensorsPushbuttons/
Lights

Process

Relays/
Timers

Comm.

Terminal
Blocks &
Wiring

Power

Circuit
Protection

Enclosures

Tools

Pneumatics

Appendix

Product
IndexPart #
Index

Sensors Accessories: Cables

Cable Specifications		
Specification	M8 / M12	M12 with LED
Length	1m (3.28ft.) / 3m (9.84ft.)	0.3m (0.98ft) / 0.6m (1.97ft) / 1m (3.28ft) 2m (6.5ft) / 5m (16.4ft) / 10m (32.8ft)
Nominal Voltage	50VAC/75VDC	10 to 36VDC
Max Current	4A	4A
	N/A	10V input Brown wire LED: 1.7mA White and/or Black LED: 0.9mA 36V input Brown wire LED: 7.3mA White and/or Black LED: 4.7mA
Protection Degree	IEC IP67	IEC IP67/IP68/IP69K
Material Nut	Brass: nickel plated	Brass: nickel plated
Jacket Material	PVC	PUR
Housing Material	PUR	Connector: Orange PUR, Socket: Black PUR
Contacts Material	Copper-tin(CuSn)=Brass	Brass: gold plated
Conductors Cross Section (AWG)	0.34mm ²	0.34mm ² (22 AWG)
Tightening Torque	0.5 Nm	Plug: 0.6 to 1.5 Nm (take into account the maximum value of the counterpart) Socket: 0.6 to 1.5 Nm
Ø Outer Cable	5mm	5mm
Temperature Range	-25° to +70°C (-13° to 158°F)	-25° to +90°C (-13° to 194°F)
Environmental		Halogen-free, Silicone-free
Function Display LED	N/A	Green
Switching Status LED	N/A	2 x Yellow
Drag Chain (Roller Cable Tray) Suitability	Bending Radius	min. 10 x cable diameter
	Bending Cycles	>5 million
	Travel Speed	N/A Max. 3.3 m/s for a horizontal travel length of 5 m and max. acceleration of 5 m/s ²
	Torsional Strain	N/A ±180°/m
Agency Approvals	RoHS	UL File E191684, RoHS

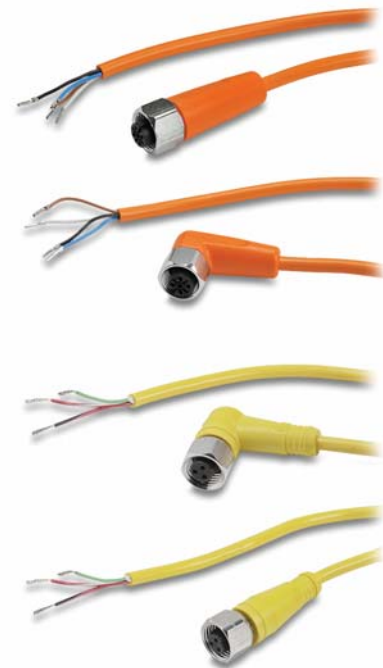
UL Reference	
Part Number	Cable Assemblies Series M12, UL Catalog Number
EVC322	VDOAH043MSS00.3H04STGH040MSS
EVC323	VDOAH043MSS00.6H04STGH040MSS
EVC324	VDOAH043MSS0001H04STGH040MSS
EVC325	VDOAH043MSS0002H04STGH040MSS
EVC326	VDOAH043MSS0005H04STGH040MSS
EVC327	VDOAH043MSS0010H04STGH040MSS
Note: Shown in UL file under Cable Assemblies using catalog number	

Sensors Accessories: IP69K-rated Cables

Cables with quick-disconnect plugs

- Industry standard axial and right-angle M12 or 1/2" Micro connectors with open leads
- 5m and 10m cable lengths
- PVC (polyvinyl chloride) jacket for food and beverage industrial applications
- IP69K rated for food and beverage industrial applications
- 316L stainless steel coupling nut
- EPDM o-ring

M12 Quick-Disconnect Cables (Euro, Micro DC-Single Key)							
Part Number	Price	Length	Poles	Connector	LED	Jacket	Dimensions
M12 Quick-Disconnects							
EVT221	<---	5m (16.4ft)	4	Axial	No	Orange PVC	Figure 4
EVT222	<---	5m (16.4ft)	4	Right-angle	No	Orange PVC	Figure 1
EVT223	<---	10m (32.8ft)	4	Axial	No	Orange PVC	Figure 4
EVT224	<---	10m (32.8ft)	4	Right-angle	No	Orange PVC	Figure 1
Micro AC Volt 1/2 Inch - 20 UNF Cables							
1/2" Quick-Disconnects							
E18446	<---	5m (16.4ft)	3	Axial	No	Yellow PVC	Figure 6
E18447	<---	5m (16.4ft)	3	Right-angle	No	Yellow PVC	Figure 5
E18448	<---	10m (32.8ft)	3	Axial	No	Yellow PVC	Figure 6
E18449	<---	10m (32.8ft)	3	Right-angle	No	Yellow PVC	Figure 5



LED Units Wiring

Patch cables with quick-disconnect plugs on each end

Available patch cables include:

- Industry standard M12 screw-lock connectors
- One male and one female connector
- Axial and right-angle connector models
- 0.3m, 0.6m, 1m, 2m and 5m cable lengths
- PVC (polyvinyl chloride) jacket for food and beverage industrial applications
- IP69K rating, suitable for food and beverage industrial applications
- 316L stainless steel coupling nut
- EPDM o-ring

M12 Patch Cables with Quick-Disconnect on Each End (Euro, Micro DC-Single Key)						
Part Number	Price	Length	Poles	Connectors	Jacket	Dimensions
M12 Quick-Disconnect Patch Cables						
EVT225	<---	0.3m (0.98ft)	4	Axial female plug to axial male plug	Orange PVC	Figure 3
EVT226	<---	0.3m (0.98ft)	4	Right angle female plug to axial male plug	Orange PVC	Figure 2
EVT227	<---	0.6m (1.97ft)	4	Axial female plug to axial male plug	Orange PVC	Figure 3
EVT228	<---	0.6m (1.97ft)	4	Right angle female plug to axial male plug	Orange PVC	Figure 2
EVT229	<---	1m (3.3ft)	4	Axial female plug to axial male plug	Orange PVC	Figure 3
EVT230	<---	1m (3.3ft)	4	Right angle female plug to axial male plug	Orange PVC	Figure 2
EVT231	<---	2m (6.6ft)	4	Axial female plug to axial male plug	Orange PVC	Figure 3
EVT232	<---	2m (6.6ft)	4	Right angle female plug to axial male plug	Orange PVC	Figure 2
EVT233	<---	5m (16.4ft)	4	Axial female plug to axial male plug	Orange PVC	Figure 3
EVT234	<---	5m (16.4ft)	4	Right angle female plug to axial male plug	Orange PVC	Figure 2

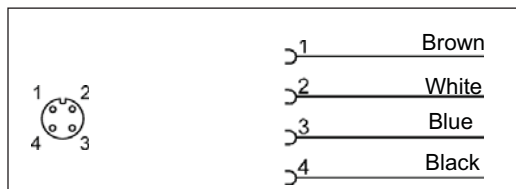


Sensors Accessories: IP69K-rated Cables

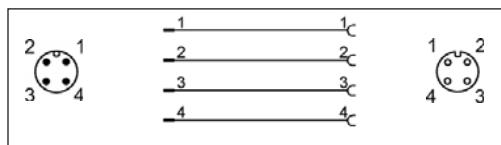
Cable Specifications		
Specification	M12	1/2"
Length	0.3m (0.98ft), 0.6m (1.97ft), 1m (3.3ft), 2m (6.6ft), 5m (16.4ft), 10m (32.8ft)	5m (16.4ft), 10m (32.8ft)
Nominal Voltage	250 VAC/300 VDC	300 VAC/VDC
Max Current	4A	4A
Protection Degree	IEC IP67 / IP68 / IP69K	IEC IP67 / IP68 / IP69K
Material Nut	316L stainless steel	316L stainless steel
Jacket Material	PVC	PVC
Housing Material	PVC	PVC
Contacts Material	Gold plated	Gold plated
Tightening Torque	0.6 to 1.5 Nm	
Conductors Cross Section (AWG)	22 AWG	22 AWG
Ø Outer Cable	4.9 mm	4.5 mm
Temperature Range	-25° to 100°C (-13° to 212°F)	-10° to 100°C (14° to 212°F)
Environmental	Halogen free, Silicone free	Halogen free, Silicone free
Bending Radius	min. 10 x cable diameter	
Agency Approvals	UL E191684	UL E177636

Wiring - M12 DC

EVT221, EVT222, EVT223, EVT224

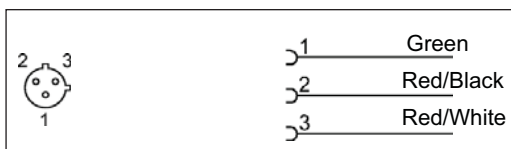


EVT225, EVT226, EVT227, EVT228, EVT229,
EVT230, EVT231, EVT232, EVT233, EVT234



Wiring - 1/2" Micro AC

E18446, E18447, E18448, E18449



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Part #
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Sensors Accessories: IP69K-rated Cables

Dimensions mm (in)

Figure 1

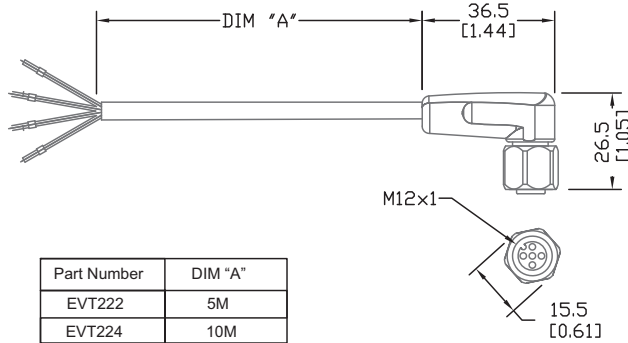


Figure 2

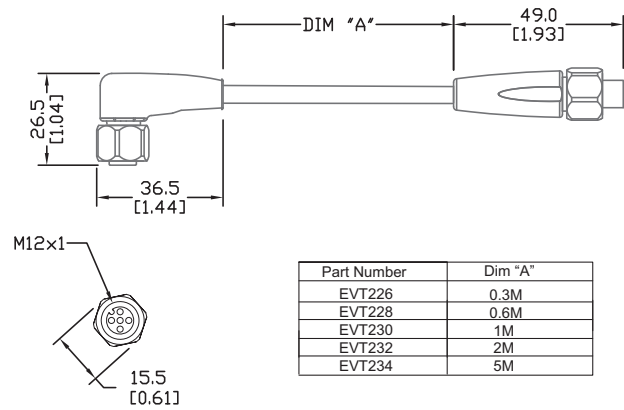


Figure 3

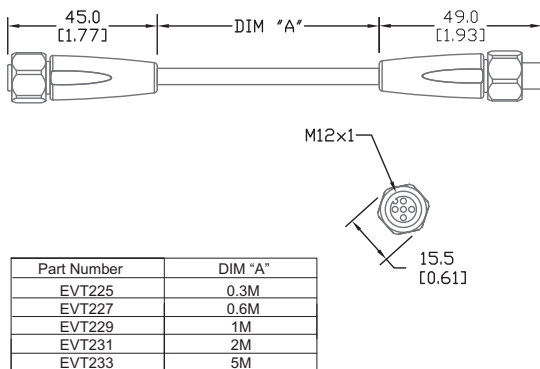


Figure 4

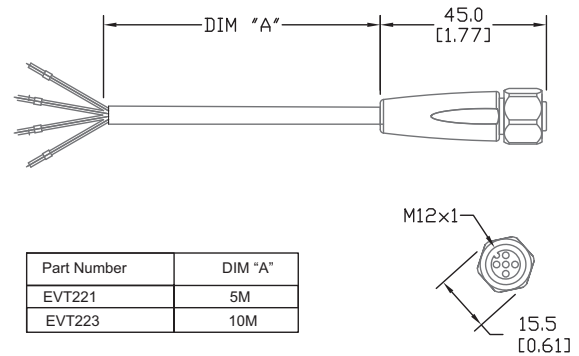


Figure 5

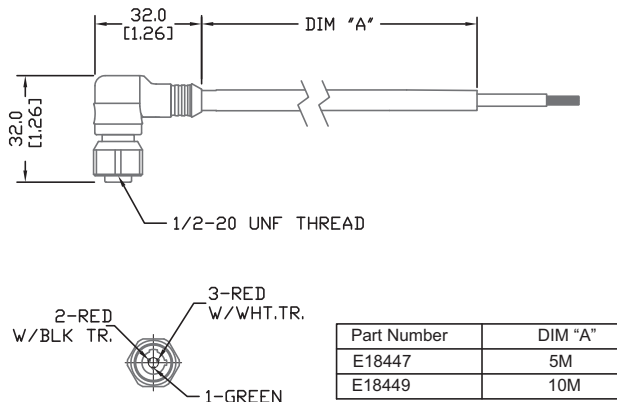


Figure 6

