HTM™ SENSORS

WORLD CLASS SENSORS AND DOWNTIME REDUCTION SERVICES TO APPLY THEM

PRODUCT GUIDE

HTMSENSORS.COM

IT'S ALIVE!

Introducing NEW MonsterProx™ Sensors

High Temperature Coated WFI MetalHead™ Sensors with a Super Durable American Made Barrel

For Your Toughest Jobs, Send In THE MONSTER!

MONSTER PROX™

Assembled in U.S.A. Made in Canada

PRODUCT GUIDE

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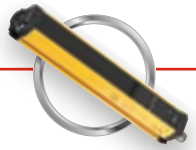

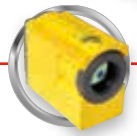

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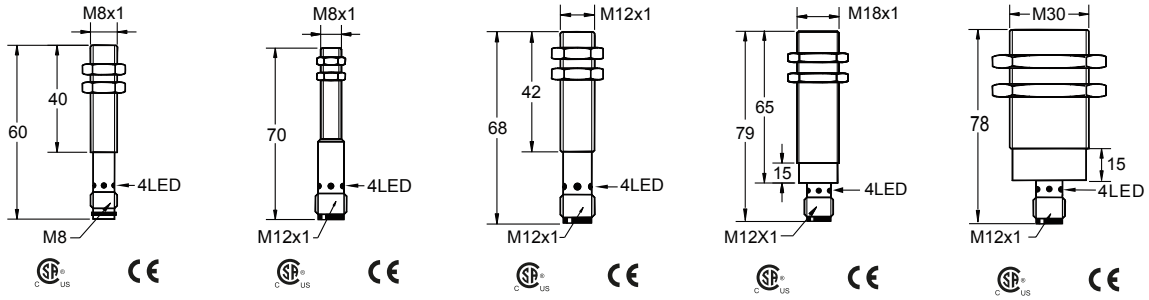
HTM™ SENSORS

- STANDARD RANGE SENSORS FOR THE DETECTION OF METAL TARGETS
- LOWEST PRICE OF ALL THE MAJOR BRANDS FOR STANDARD SENSORS
- 1,000'S IN STOCK FOR SAME DAY DELIVERY
- STANDARD LIFETIME WARRANTY AGAINST DEFECTS
- RELIABLE NON-CONTACT OPERATION FOR MANY TYPES OF MACHINES
- IDEAL FOR USE WHERE A LOW-COST SENSOR IS NEEDED FOR DETECTION

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30

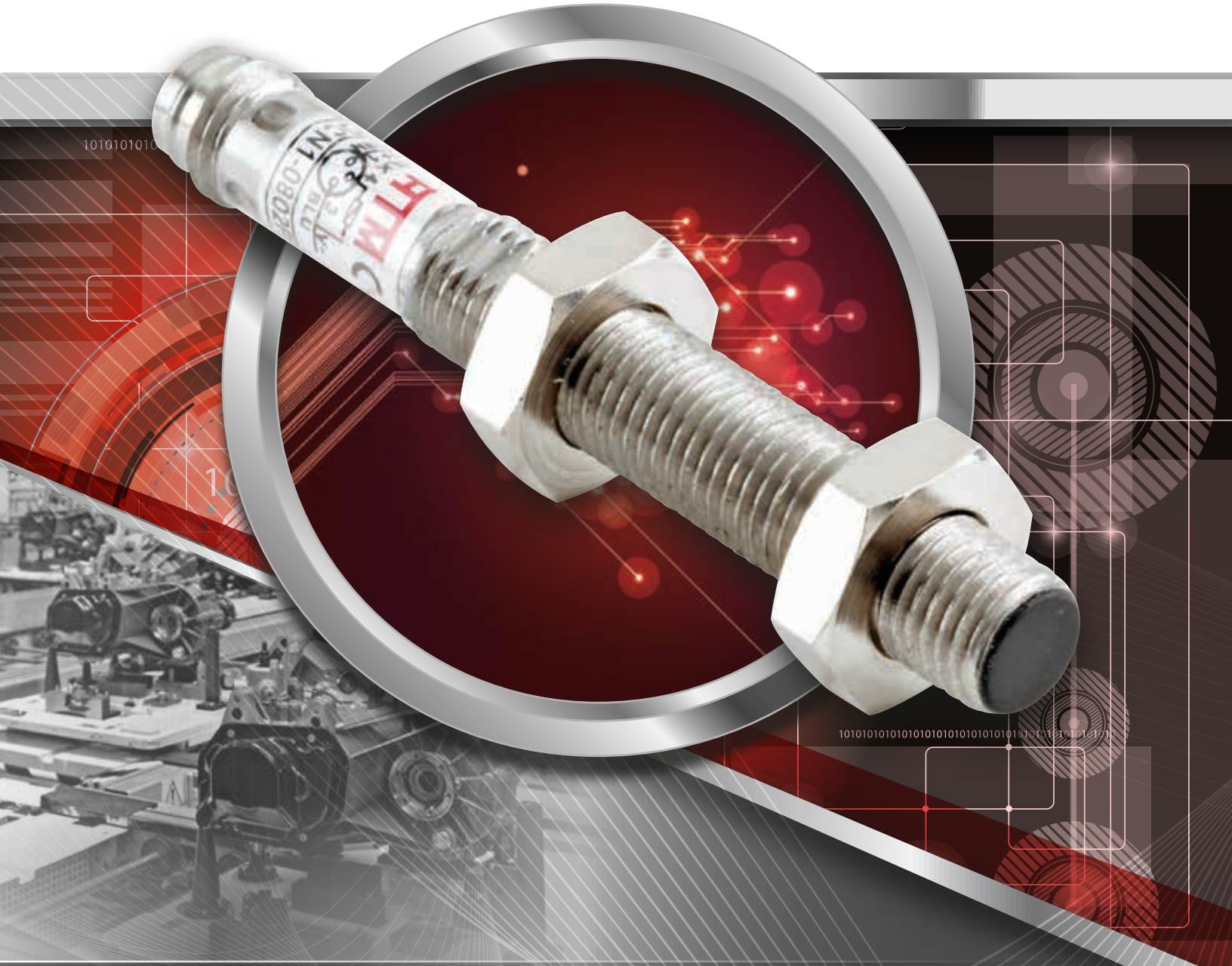


SENSING DISTANCE	1 mm	1 mm	2 mm	5 mm	10 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	Stainless Steel	Chrome Plated Brass			
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	FCU1-0801P-ACU3	FCM1-0801P-ARU4	FCM1-1202P-ARU4	FCM1-1805P-ARU4	FCM1-3010P-ARU4
DC 3-wire 10-30 V PNP - Closed	FCU1-0801P-BCU3	FCM1-0801P-BRU4	FCM1-1202P-BRU4	FCM1-1805P-BRU4	FCM1-3010P-BRU4
DC 3-wire 10-30 V NPN - Open	FCU1-0801N-ACU3	FCM1-0801N-ARU4	FCM1-1202N-ARU4	FCM1-1805N-ARU4	FCM1-3010N-ARU4
DC 3-wire 10-30 V NPN - Closed	FCU1-0801N-BCU3	FCM1-0801N-BRU4	FCM1-1202N-BRU4	FCM1-1805N-BRU4	FCM1-3010N-BRU4
DC 2-wire 10-60 V - Open	FCU1-0801C-ACU3	FCM1-0801C-ARU4	FCM1-1202C-ARU4	FCM1-1805C-ARU4	FCM1-3010C-ARU4
DC 2-wire 10-60 V - Closed	FCU1-0801C-BCU3	FCM1-0801C-BRU4	FCM1-1202C-BRU4	FCM1-1805C-BRU4	FCM1-3010C-BRU4

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

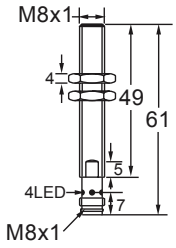
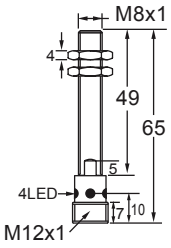
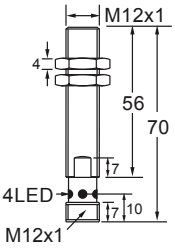
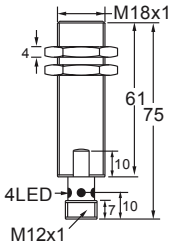
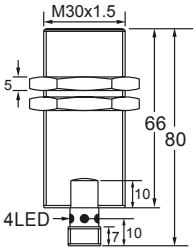
STANDARD RANGE SENSORS HAVE THE BEST PRICE OF ALL THE MAJOR BRANDS FOR APPLICATIONS THAT REQUIRE A RELIABLE AND LOW-COST SENSOR.

HTM™ SENSORS



- EXTENDED RANGE SENSORS FOR AUTOMATED MACHINERY
- DOUBLE THE RANGE OF STANDARD SENSORS FOR RELIABLE DETECTION
- TIGHT HYSTERESIS FOR A REPEATABLE SENSING RANGE
- HIGH-TORQUE BARREL IS EXTRA THICK FOR MORE DURABILITY
- WRENCH FLATS AND 4-VIEW LED FOR EASY INSTALLATION
- IDEAL FOR USE IN ALL TYPES OF MACHINES FOR PART DETECTION

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30
				

SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	Stainless Steel		Chrome Plated Brass		
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	OCN1-0802P-ACL3	OCN1-0802P-ARL4	OCN1-1204P-ARL4	OCN1-1808P-ARL4	OCN1-3015P-ARL4
DC 3-wire 10-30 V PNP - Closed	OCN1-0802P-BCL3	OCN1-0802P-BRL4	OCN1-1204P-BRL4	OCN1-1808P-BRL4	OCN1-3015P-BRL4
DC 3-wire 10-30 V NPN - Open	OCN1-0802N-ACL3	OCN1-0802N-ARL4	OCN1-1204N-ARL4	OCN1-1808N-ARL4	OCN1-3015N-ARL4
DC 3-wire 10-30 V NPN - Closed	OCN1-0802N-BCL3	OCN1-0802N-BRL4	OCN1-1204N-BRL4	OCN1-1808N-BRL4	OCN1-3015N-BRL4
DC 2-wire 10-60 V - Open	OCN1-0802C-ACL3	OCN1-0802C-ARL4	OCN1-1204C-ARL4	OCN1-1808C-ARL4	OCN1-3015C-ARL4
DC 2-wire 10-60 V - Closed	OCN1-0802C-BCL3	OCN1-0802C-BRL4	OCN1-1204C-BRL4	OCN1-1808C-BRL4	OCN1-3015C-BRL4

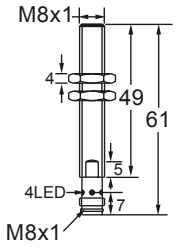
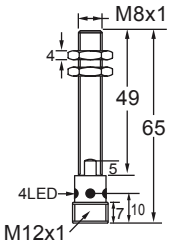
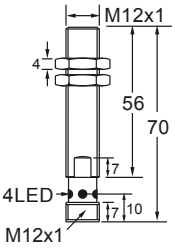
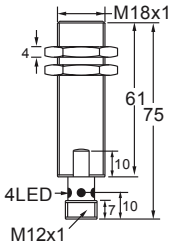
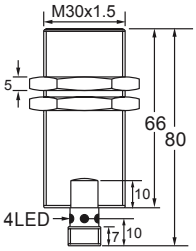
Short body versions available upon request.
NOTE: Specifications subject to change without notification.

EXTENDED RANGE SENSORS ARE THE BEST VALUE IN THE SENSOR LINE UP WITH GREAT PERFORMANCE FEATURES, EXTENDED RANGE, MORE DURABILITY AND A LOW PRICE FOR ALL APPLICATIONS.

HTM™ SENSORS

- LONG RANGE SENSORS FOR AUTOMATED MACHINERY
- UP TO 3 TIMES THE STANDARD RANGE FOR RELIABLE DETECTION
- ALLOWS THE SENSOR TO BE MOUNTED FURTHER AWAY TO AVOID CONTACT
- GREAT FOR ANGLED PARTS WHERE THE TARGET CAN BE A VARIABLE DISTANCE
- AVAILABLE WITH A PRE-WIRED CABLE, PIGTAIL, OR QUICK-CONNECTOR
- IDEAL FOR USE IN MACHINES WHERE THE TARGET IS FURTHER AWAY

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30
				

SENSING DISTANCE	3 mm	3 mm	6 mm	12 mm	22 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
HOUSING MATERIAL	Stainless Steel		Chrome Plated Brass		
Shielded					
DC 3-wire 10-30 V PNP - Open	LCN1-0803P-ACL3	LCN1-0803P-ARL4	LCN1-1206P-ARL4	LCN1-1812P-ARL4	LCN1-3022P-ARL4
DC 3-wire 10-30 V PNP - Closed	LCN1-0803P-BCL3	LCN1-0803P-BRL4	LCN1-1206P-BRL4	LCN1-1812P-BRL4	LCN1-3022P-BRL4
DC 3-wire 10-30 V NPN - Open	LCN1-0803N-ACL3	LCN1-0803N-ARL4	LCN1-1206N-ARL4	LCN1-1812N-ARL4	LCN1-3022N-ARL4
DC 3-wire 10-30 V NPN - Closed	LCN1-0803N-BCL3	LCN1-0803N-BRL4	LCN1-1206N-BRL4	LCN1-1812N-BRL4	LCN1-3022N-BRL4
Quasi Shielded Sensing Range	4 mm	4 mm	8 mm	16 mm	25 mm
DC 3-wire 10-30 V PNP - Open	LCN1-0804P-ACL3	LCN1-0804P-ARL4	LCN1-1208P-ARL4	LCN1-1816P-ARL4	LCN1-3025P-ARL4
DC 3-wire 10-30 V NPN - Open	LCN1-0804N-ACL3	LCN1-0804N-ARL4	LCN1-1208N-ARL4	LCN1-1816N-ARL4	LCN1-3025N-ARL4

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

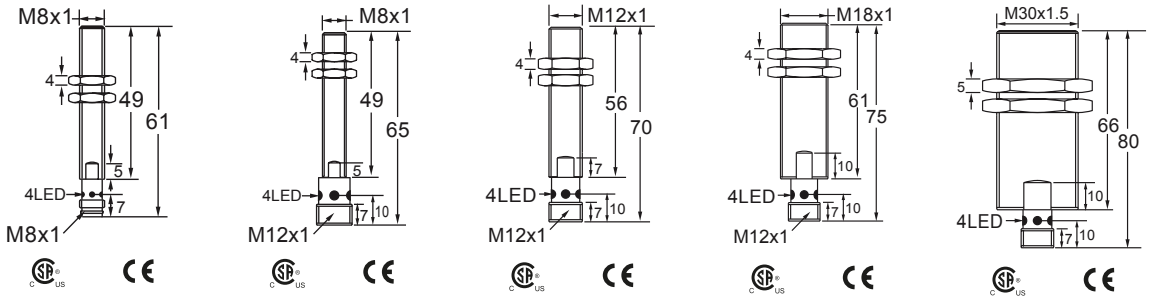
LONG RANGE PROXIMITY SENSORS ARE THE BEST CHOICE FOR AUTOMATED MACHINERY WHERE A LONGER RANGE IS REQUIRED FOR REPEATABLE OPERATION, AND WHERE CONTACT NEEDS TO BE AVOIDED FROM PARTS OR TOOLING.

HTM™ SENSORS

- DOUBLE RANGE SENSORS FOR USE IN AUTOMOTIVE APPLICATIONS
- HIGH TORQUE BARREL CONSTRUCTION FOR RUGGED OPERATION
- WRENCH FLATS FOR EASY INSTALLATION AND A TIGHT FIT
- SPATTERGUARD™ PTFE COATING TO RESIST WELD SPATTER DAMAGE
- 100 °C RATING FOR HOT WELDING AREAS
- AVAILABLE IN PNP, NPN, AC, AND DC 2-WIRE OUTPUT FUNCTIONS

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30



SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +100 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	PTFE Coated Stainless Steel		PTFE Coated Brass		
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	OCN1-0802P-ACL3-PTFE-100C	OCN1-0802P-ARL4-PTFE-100C	OCN1-1204P-ARL4-PTFE-100C	OCN1-1808P-ARL4-PTFE-100C	OCN1-3015P-ARL4-PTFE-100C
DC 3-wire 10-30 V PNP - Closed	OCN1-0802P-BCL3-PTFE-100C	OCN1-0802P-BRL4-PTFE-100C	OCN1-1204P-BRL4-PTFE-100C	OCN1-1808P-BRL4-PTFE-100C	OCN1-3015P-BRL4-PTFE-100C
DC 3-wire 10-30 V NPN - Open	OCN1-0802N-ACL3-PTFE-100C	OCN1-0802N-ARL4-PTFE-100C	OCN1-1204N-ARL4-PTFE-100C	OCN1-1808N-ARL4-PTFE-100C	OCN1-3015N-ARL4-PTFE-100C
DC 3-wire 10-30 V NPN - Closed	OCN1-0802N-BCL3-PTFE-100C	OCN1-0802N-BRL4-PTFE-100C	OCN1-1204N-BRL4-PTFE-100C	OCN1-1808N-BRL4-PTFE-100C	OCN1-3015N-BRL4-PTFE-100C
DC 2-wire 10-60 V - Open	OCN1-0802C-ACL3-PTFE-100C	OCN1-0802C-ARL4-PTFE-100C	OCN1-1204C-ARL4-PTFE-100C	OCN1-1808C-ARL4-PTFE-100C	OCN1-3015C-ARL4-PTFE-100C
DC 2-wire 10-60 V - Closed	OCN1-0802C-BCL3-PTFE-100C	OCN1-0802C-BRL4-PTFE-100C	OCN1-1204C-BRL4-PTFE-100C	OCN1-1808C-BRL4-PTFE-100C	OCN1-3015C-BRL4-PTFE-100C

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

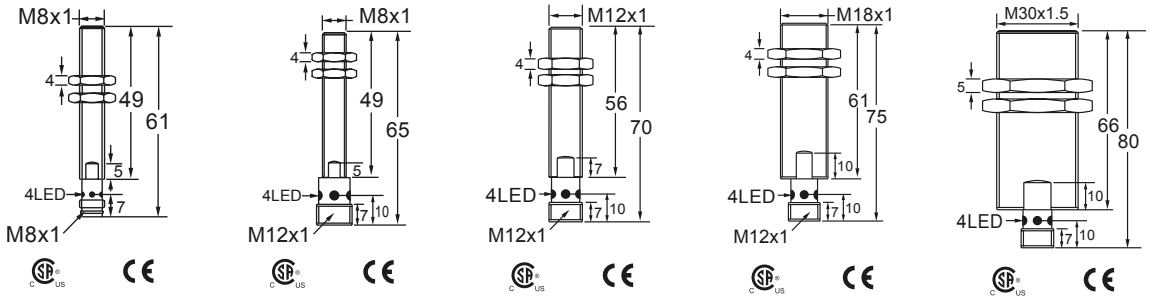
GENERAL PURPOSE AUTOMOTIVE SENSORS ARE THE BEST CHOICE FOR TOOLING AND ASSEMBLY FIXTURES, SPOT WELDING MACHINES, AND MIG WELDING CELLS WHERE A RELIABLE, COST-EFFECTIVE SENSOR IS REQUIRED FOR SENSING APPLICATIONS.

HTM™ SENSORS

- WELD FIELD IMMUNE SENSORS FOR MIG AND SPOT WELDING MACHINES
- HIGH TORQUE BARREL WITH WRENCH FLATS FOR A TIGHT FIT
- SPATTERGUARD™ PTFE COATING TO RESIST WELD SPATTER DAMAGE
- 100 °C RATING FOR HOT WELDING ENVIRONMENTS
- AVAILABLE IN PNP, NPN AND AC OUTPUT FUNCTIONS
- IDEAL FOR USE IN HOT WELDING ENVIRONMENTS WITH WELD SPATTER

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30



SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +100 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	PTFE Coated Brass				
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	WCN1-0802P-ACL3-PTFE-100C	WCN1-0802P-ARL4-PTFE-100C	WCN1-1204P-ARL4-PTFE-100C	WCN1-1808P-ARL4-PTFE-100C	WCN1-3015P-ARL4-PTFE-100C
DC 3-wire 10-30 V PNP - Closed	WCN1-0802P-BCL3-PTFE-100C	WCN1-0802P-BRL4-PTFE-100C	WCN1-1204P-BRL4-PTFE-100C	WCN1-1808P-BRL4-PTFE-100C	WCN1-3015P-BRL4-PTFE-100C
DC 3-wire 10-30 V NPN - Open	WCN1-0802N-ACL3-PTFE-100C	WCN1-0802N-ARL4-PTFE-100C	WCN1-1204N-ARL4-PTFE-100C	WCN1-1808N-ARL4-PTFE-100C	WCN1-3015N-ARL4-PTFE-100C
DC 3-wire 10-30 V NPN - Closed	WCN1-0802N-BCL3-PTFE-100C	WCN1-0802N-BRL4-PTFE-100C	WCN1-1204N-BRL4-PTFE-100C	WCN1-1808N-BRL4-PTFE-100C	WCN1-3015N-BRL4-PTFE-100C
DC 2-wire 10-60 V - Open	WCN1-0802C-ACL3-PTFE-100C	WCN1-0802C-ARL4-PTFE-100C	WCN1-1204C-ARL4-PTFE-100C	WCN1-1808C-ARL4-PTFE-100C	WCN1-3015C-ARL4-PTFE-100C
DC 2-wire 10-60 V - Closed	WCN1-0802C-BCL3-PTFE-100C	WCN1-0802C-BRL4-PTFE-100C	WCN1-1204C-BRL4-PTFE-100C	WCN1-1808C-BRL4-PTFE-100C	WCN1-3015C-BRL4-PTFE-100C

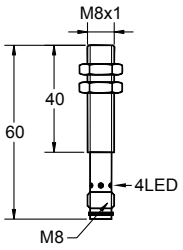
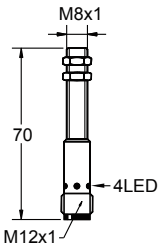
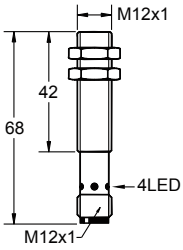
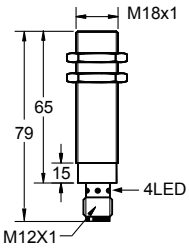
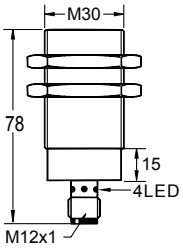
NOTE: Specifications subject to change without notification.

WELD FIELD IMMUNE SENSORS ARE THE BEST CHOICE FOR MIG AND SPOT WELDING MACHINERY WHERE A RELIABLE SENSOR IS REQUIRED FOR RELIABLE OPERATION AROUND HIGH HEAT, WELD SPATTER AND HIGH MAGNETIC FIELDS.

HTM™ SENSORS

- DURABLE 1-PIECE STAINLESS STEEL CONSTRUCTION
- MADE FROM STAINLESS STEEL BAR, TURNED, AND BORED OUT FROM THE END
- SEALED AGAINST LIQUID, OIL, AND DUST FOR MAINTENANCE-FREE OPERATION
- LASTS LONGER THAN PLASTIC FACE SENSORS WHERE CONTACT IS FREQUENT
- IDEAL FOR USE WHERE A MORE DURABLE SENSOR IS REQUIRED FOR LESS DOWNTIME

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30
				

SENSING DISTANCE	1 mm	1 mm	2 mm	5 mm	10 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	1-piece Stainless Steel Face and Body				
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	FCS1-0801P-ACS3	FCS1-0801P-ARU4	FCS1-1202P-ARU4	FCS1-1805P-ARU4	FCS1-3010P-ARU4
DC 3-wire 10-30 V PNP - Closed	FCS1-0801P-BCS3	FCS1-0801P-BRU4	FCS1-1202P-BRU4	FCS1-1805P-BRU4	FCS1-3010P-BRU4
DC 3-wire 10-30 V NPN - Open	FCS1-0801N-ACS3	FCS1-0801N-ARU4	FCS1-1202N-ARU4	FCS1-1805N-ARU4	FCS1-3010N-ARU4
DC 3-wire 10-30 V NPN - Closed	FCS1-0801N-BCS3	FCS1-0801N-BRU4	FCS1-1202N-BRU4	FCS1-1805N-BRU4	FCS1-3010N-BRU4
DC 2-wire 10-60 V - Open	FCS1-0801C-ACS3	FCS1-0801C-ARU4	FCS1-1202C-ARU4	FCS1-1805C-ARU4	FCS1-3010C-ARU4
AC 20-240 V - Open	N/A	N/A	FCS1-1202A-AUL3	FCS1-1805A-AUL3	FCS1-3010A-AUL3

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

METALHEAD™ SENSORS ARE MADE OF 1-PIECE OF STAINLESS STEEL BAR, BORED OUT FROM THE END FOR SUPERIOR STRENGTH AND DURABILITY.

METALHEAD™ ALL METAL SENSING PROXIMITY SENSORS

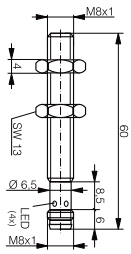
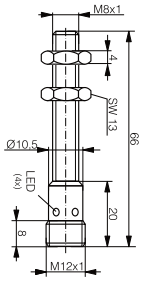
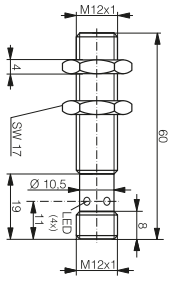
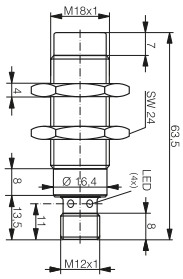
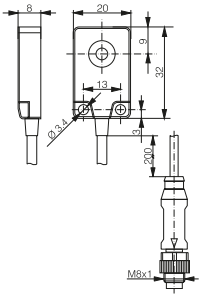
HTM™ SENSORS

IO-Link

- LONG RANGE SENSORS FOR AUTOMATED MACHINERY
- ONE-PIECE STAINLESS STEEL HOUSINGS
- EXTREMELY ROBUST AND CORROSION RESISTANT
- SENSES ALL METALS AT THE SAME RANGE (STEEL, ALUMINIUM, COPPER, STAINLESS, BRASS)
- AVAILABLE IN M8, M12, M18 AND RECTANGULAR FLATPACK
- IDEAL FOR MACHINES THAT NEED TO SENSE METAL TARGETS AT LONGER SENSING DISTANCES

HTM™ SENSORS LIFETIME WARRANTY

METALHEAD™ ALL METAL SENSING PROXIMITY SENSORS SPECIFICATIONS

M8 PICO	M8 MICRO	M12	M18	RECTANGULAR
				
IO-Link CE	IO-Link CE	IO-Link CE	IO-Link CE	IO-Link CE c UL us LISTED

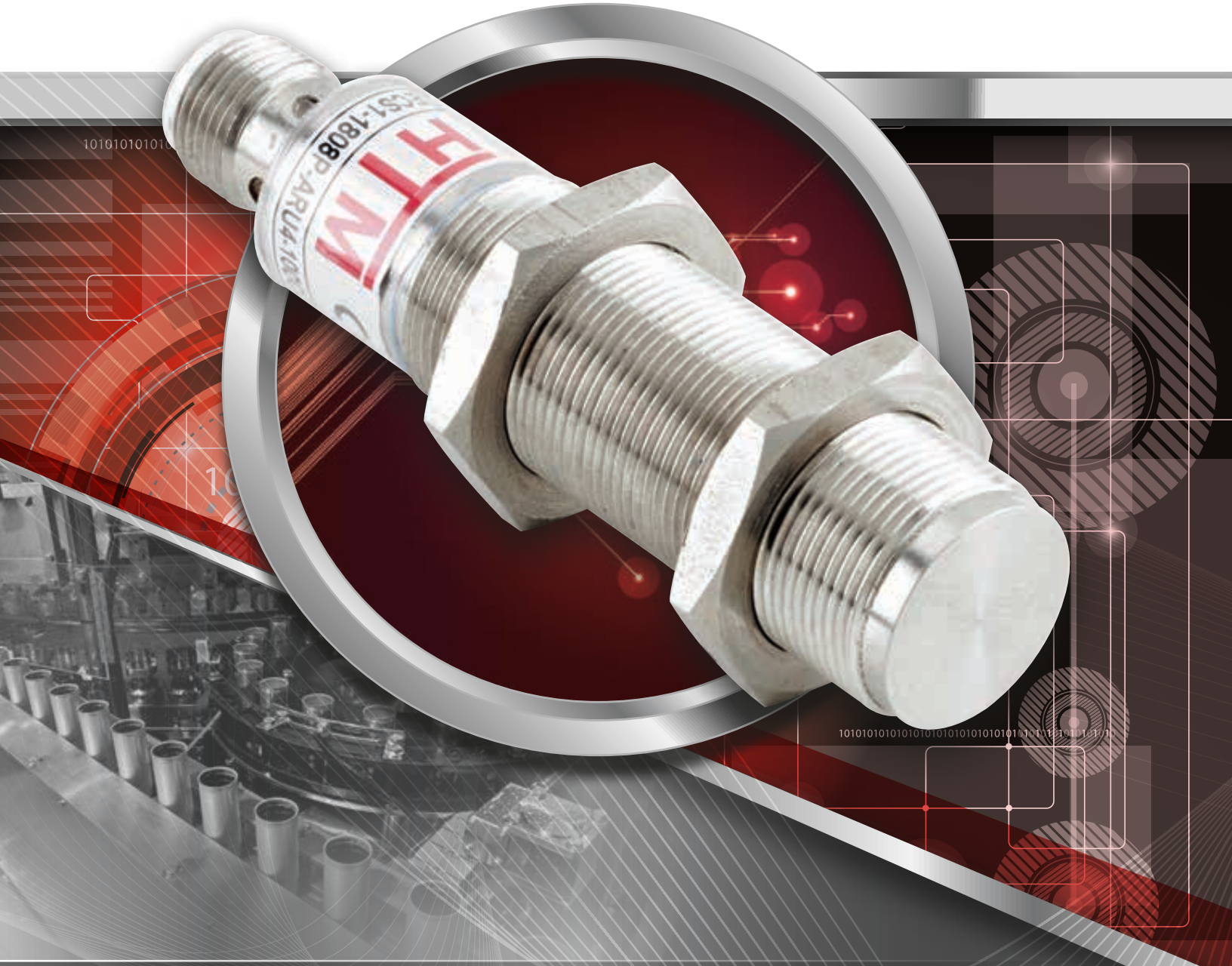
SENSING DISTANCE (SHIELDED)	3 mm	3 mm	6 mm	10 mm	7 mm
SENSING DISTANCE (UNSHIELDED)	6 mm	6 mm	10 mm	20 mm	N/A
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +85 °C				
HOUSING MATERIAL	Stainless-steel V2A				
IP RATING	IP 68 / IP 69K				
INTERFACE	IO-Link (PNP Versions only)				
Shielded PNP - Normally Open	LCS1-0803P-ACU3-AMS	LCS1-0803P-ARU4-AMS	LCS1-1206P-ARU4-AMS	LCS1-1810P-ARU4-AMS	EQS1-2007P-A3U0.2/P8
Unshielded PNP - Normally Open	LCS2-0806P-ACU3-AMS	LCS2-0806P-ARU4-AMS	LCS2-1210P-ARU4-AMS	LCS2-1820P-ARU4-AMS	N/A
Shielded NPN - Normally Open	LCS1-0803N-ACU3-AMS	LCS1-0803N-ARU4-AMS	LCS1-1206N-ARU4-AMS	LCS1-1810N-ARU4-AMS	EQS1-2007N-A3U0.2/P8
Unshielded NPN - Normally Open	LCS2-0806N-ACU3-AMS	LCS2-0806N-ARU4-AMS	LCS2-1210N-ARU4-AMS	LCS2-1820N-ARU4-AMS	N/A

* Normally Closed available upon request.

NOTE: Specifications subject to change without notification.

METALHEAD™ ALL METAL SENSING PROXIMITY SENSORS WITH IO-LINK ARE THE BEST CHOICE FOR THE DETECTION OF FERROUS AND NON-FERROUS TARGETS AT LONG SENSING DISTANCES. THIS DURABLE IP69K LINEUP IS EXTRA DURABLE, AND COMES STANDARD WITH THE ABILITY TO INTEGRATE WITH IO-LINK DEVICES FOR PROCESS OPTIMIZATION.

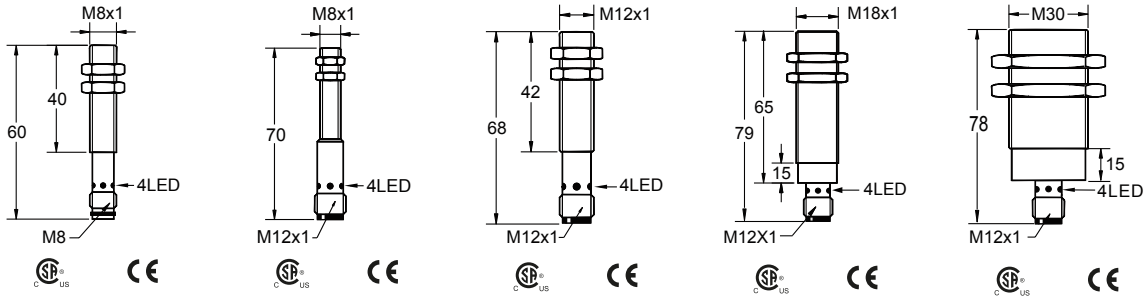
HTM™ SENSORS



- 1-PIECE STAINLESS STEEL SENSORS FOR FOOD AND PACKAGING APPLICATIONS
- MADE OF 1-PIECE OF SUS 316 FOOD GRADE STAINLESS STEEL BAR
- DOUBLE THE RANGE FROM STANDARD, THE M12 HAS A 4 mm RANGE
- 100 °C RATING FOR HOT FOOD PRODUCTION OR CLEANING
- AVAILABLE IN PNP, NPN, DC 2-WIRE AND AC OUTPUT FUNCTIONS
- IDEAL FOR USE WHERE PRESSURE WASHDOWN AND DETERGENTS ARE USED

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30



SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +100 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	1-piece Stainless Steel Face and Body - Food Grade SUS 316				
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACS3-100C-316	ECS1-0802P-ARU4-100C-316	ECS1-1204P-ARU4-100C-316	ECS1-1808P-ARU4-100C-316	ECS1-3015P-ARU4-100C-316
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCS3-100C-316	ECS1-0802P-BRU4-100C-316	ECS1-1204P-BRU4-100C-316	ECS1-1808P-BRU4-100C-316	ECS1-3015P-BRU4-100C-316
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACS3-100C-316	ECS1-0802N-ARU4-100C-316	ECS1-1204N-ARU4-100C-316	ECS1-1808N-ARU4-100C-316	ECS1-3015N-ARU4-100C-316
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCS3-100C-316	ECS1-0802N-BRU4-100C-316	ECS1-1204N-BRU4-100C-316	ECS1-1808N-BRU4-100C-316	ECS1-3015N-BRU4-100C-316
DC 2-wire 10-60 V - Open	ECS1-0802C-ACS3-100C-316	ECS1-0802C-ARU4-100C-316	ECS1-1204C-ARU4-100C-316	ECS1-1808C-ARU4-100C-316	ECS1-3015C-ARU4-100C-316
AC 20-240 V - Open	N/A	N/A	ECS1-1204A-AUL3-100C-316 *	ECS1-1808A-AUL3-100C-316 *	ECS1-3015A-AUL3-100C-316 *

* Connector thread for these AC part numbers is 1/2-20 UNF and not M12.
Short body versions available upon request.
NOTE: Specifications subject to change without notification.

FOOD GRADE METALHEAD™ SENSORS ARE THE BEST CHOICE FOR FOOD AND PACKAGING MACHINERY WHERE A RELIABLE AND COMPLETELY SEALED SENSOR IS REQUIRED FOR LONG-LASTING OPERATION IN A TOUGH ENVIRONMENT.

HTM™ SENSORS

TitanPROX™

1-PIECE TITANIUM

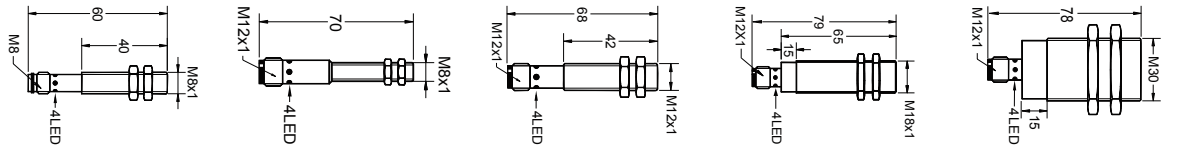
- 1-PIECE TC4 TITANIUM SENSORS FOR SUPERIOR STRENGTH AND DURABILITY
- MADE OF 1-PIECE OF BORED TC4 TITANIUM BAR
- DOUBLE THE RANGE FROM STANDARD, THE M12 HAS A 4 mm RANGE
- 100 °C RATING FOR HOT APPLICATION ENVIRONMENTS
- AVAILABLE IN PNP, NPN, DC 2-WIRE, AND AC OUTPUT FUNCTIONS
- IDEAL FOR USE WHERE EXTREME STRENGTH AND DURABILITY IS REQUIRED

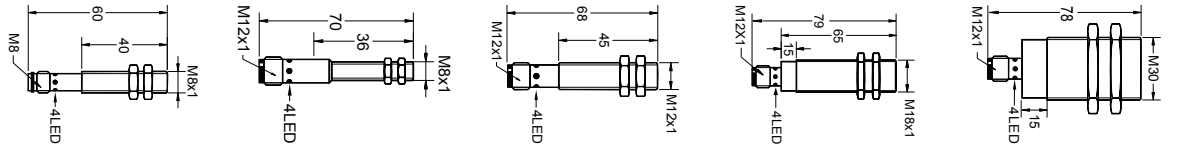
HTM™ SENSORS LIFETIME WARRANTY

TitanPROX™

1-PIECE TITANIUM

M8 PICO	M8 MICRO	M12	M18	M30





SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	Uncoated: -25 °C - +100 °C / Black SpatterGuard™ Coated: -25 °C - +120 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	1-piece TC4 Titanium Face and Body				
UNCOATED PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACS3-100C-TC4	ECS1-0802P-ARU4-100C-TC4	ECS1-1204P-ARU4-100C-TC4	ECS1-1808P-ARU4-100C-TC4	ECS1-3015P-ARU4-100C-TC4
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCS3-100C-TC4	ECS1-0802P-BRU4-100C-TC4	ECS1-1204P-BRU4-100C-TC4	ECS1-1808P-BRU4-100C-TC4	ECS1-3015P-BRU4-100C-TC4
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACS3-100C-TC4	ECS1-0802N-ARU4-100C-TC4	ECS1-1204N-ARU4-100C-TC4	ECS1-1808N-ARU4-100C-TC4	ECS1-3015N-ARU4-100C-TC4
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCS3-100C-TC4	ECS1-0802N-BRU4-100C-TC4	ECS1-1204N-BRU4-100C-TC4	ECS1-1808N-BRU4-100C-TC4	ECS1-3015N-BRU4-100C-TC4
DC 2-wire 10-60 V - Open	ECS1-0802C-ACS3-100C-TC4	ECS1-0802C-ARU4-100C-TC4	ECS1-1204C-ARU4-100C-TC4	ECS1-1808C-ARU4-100C-TC4	ECS1-3015C-ARU4-100C-TC4
AC 20-240 V - Open	N/A	N/A	ECS1-1204A-AUL3-100C-TC4	ECS1-1808A-AUL3-100C-TC4	ECS1-3015A-AUL3-100C-TC4
BLACK SPATTERGUARD™ SERIES PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACL3-PTFE-120C-WFI-TC4	ECS1-0802P-ARU4-PTFE-120C-WFI-TC4	ECS1-1204P-ARU4-PTFE-120C-WFI-TC4	ECS1-1808P-ARU4-PTFE-120C-WFI-TC4	ECS1-3015P-ARU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCL3-PTFE-120C-WFI-TC4	ECS1-0802P-BRU4-PTFE-120C-WFI-TC4	ECS1-1204P-BRU4-PTFE-120C-WFI-TC4	ECS1-1808P-BRU4-PTFE-120C-WFI-TC4	ECS1-3015P-BRU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACL3-PTFE-120C-WFI-TC4	ECS1-0802N-ARU4-PTFE-120C-WFI-TC4	ECS1-1204N-ARU4-PTFE-120C-WFI-TC4	ECS1-1808N-ARU4-PTFE-120C-WFI-TC4	ECS1-3015N-ARU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCL3-PTFE-120C-WFI-TC4	ECS1-0802N-BRU4-PTFE-120C-WFI-TC4	ECS1-1204N-BRU4-PTFE-120C-WFI-TC4	ECS1-1808N-BRU4-PTFE-120C-WFI-TC4	ECS1-3015N-BRU4-PTFE-120C-WFI-TC4

NOTE: Specifications subject to change without notification.

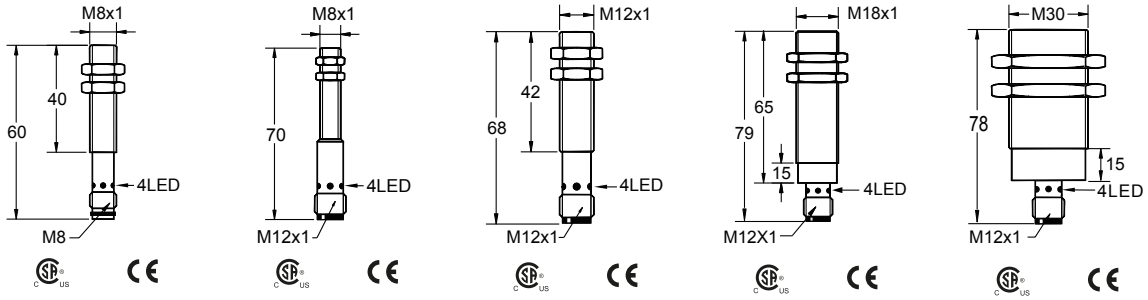
TITANPROX™ SENSORS ARE MADE FROM ONE PIECE OF TITANIUM FOR THE STRONGEST AND MOST DURABLE SENSOR HOUSINGS AVAILABLE ON THE MARKET.

HTM™ SENSORS

- HARSH DUTY SENSORS FOR WELDING ENVIRONMENTS
- 1-PIECE STAINLESS STEEL FACE AND BODY CONSTRUCTION
- PTFE COATED FOR WELD SPATTER RESISTANCE
- 100 °C RATED FOR HOT WELD CELLS
- EXTENDED RANGE FOR RELIABLE DETECTION
- AVAILABLE WITH PNP, NPN, AND AC OUTPUT FUNCTIONS

HTM™ SENSORS LIFETIME WARRANTY

M8 PICO	M8 MICRO	M12	M18	M30



SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +100 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	1-piece Face and Body - PTFE Coated Stainless Steel				
PART NUMBERS					
WELD FIELD IMMUNE PNP - Open	WCS1-0802P-ACS3-PTFE-100C	WCS1-0802P-ARU4-PTFE-100C	WCS1-1204P-ARU4-PTFE-100C	WCS1-1808P-ARU4-PTFE-100C	WCS1-3015P-ARU4-PTFE-100C
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACS3-PTFE-100C	ECS1-0802P-ARU4-PTFE-100C	ECS1-1204P-ARU4-PTFE-100C	ECS1-1808P-ARU4-PTFE-100C	ECS1-3015P-ARU4-PTFE-100C
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCS3-PTFE-100C	ECS1-0802P-BRU4-PTFE-100C	ECS1-1204P-BRU4-PTFE-100C	ECS1-1808P-BRU4-PTFE-100C	ECS1-3015P-BRU4-PTFE-100C
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACS3-PTFE-100C	ECS1-0802N-ARU4-PTFE-100C	ECS1-1204N-ARU4-PTFE-100C	ECS1-1808N-ARU4-PTFE-100C	ECS1-3015N-ARU4-PTFE-100C
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCS3-PTFE-100C	ECS1-0802N-BRU4-PTFE-100C	ECS1-1204N-BRU4-PTFE-100C	ECS1-1808N-BRU4-PTFE-100C	ECS1-3015N-BRU4-PTFE-100C
DC 2-wire 10-60 V - Open	ECS1-0802C-ACS3-PTFE-100C	ECS1-0802C-ARU4-PTFE-100C	ECS1-1204C-ARU4-PTFE-100C	ECS1-1808C-ARU4-PTFE-100C	ECS1-3015C-ARU4-PTFE-100C
AC 20-240 V - Open	N/A	N/A	ECS1-1204A-AUL3-PTFE-100C	ECS1-1808A-AUL3-PTFE-100C	ECS1-3015A-AUL3-PTFE-100C

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

METALHEAD™ SENSORS WITH SPATTERGUARD™ ARE THE BEST CHOICE FOR AUTOMATED WELD CELLS WHERE A MORE DURABLE SENSOR IS REQUIRED TO REDUCE DOWNTIME.

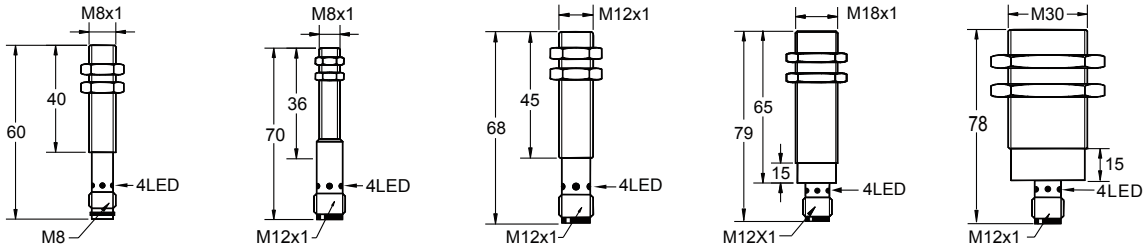
HTM™ SENSORS

- HARSH DUTY SENSORS FOR WELDING ENVIRONMENTS
- 1-PIECE STAINLESS STEEL OR TITANIUM FACE AND BODY CONSTRUCTION
- BLACK SPATTERGUARD™ COATING FOR WELD SPATTER RESISTANCE
- 120 °C RATED FOR HOT WELD CELLS
- EXTENDED RANGE FOR RELIABLE DETECTION
- WELD FIELD IMMUNE CIRCUITRY

HTM™ SENSORS LIFETIME WARRANTY

HIGH TEMPERATURE WELD FIELD IMMUNE METALHEAD™ SENSORS SPECIFICATIONS

M8 PICO	M8 MICRO	M12	M18	M30

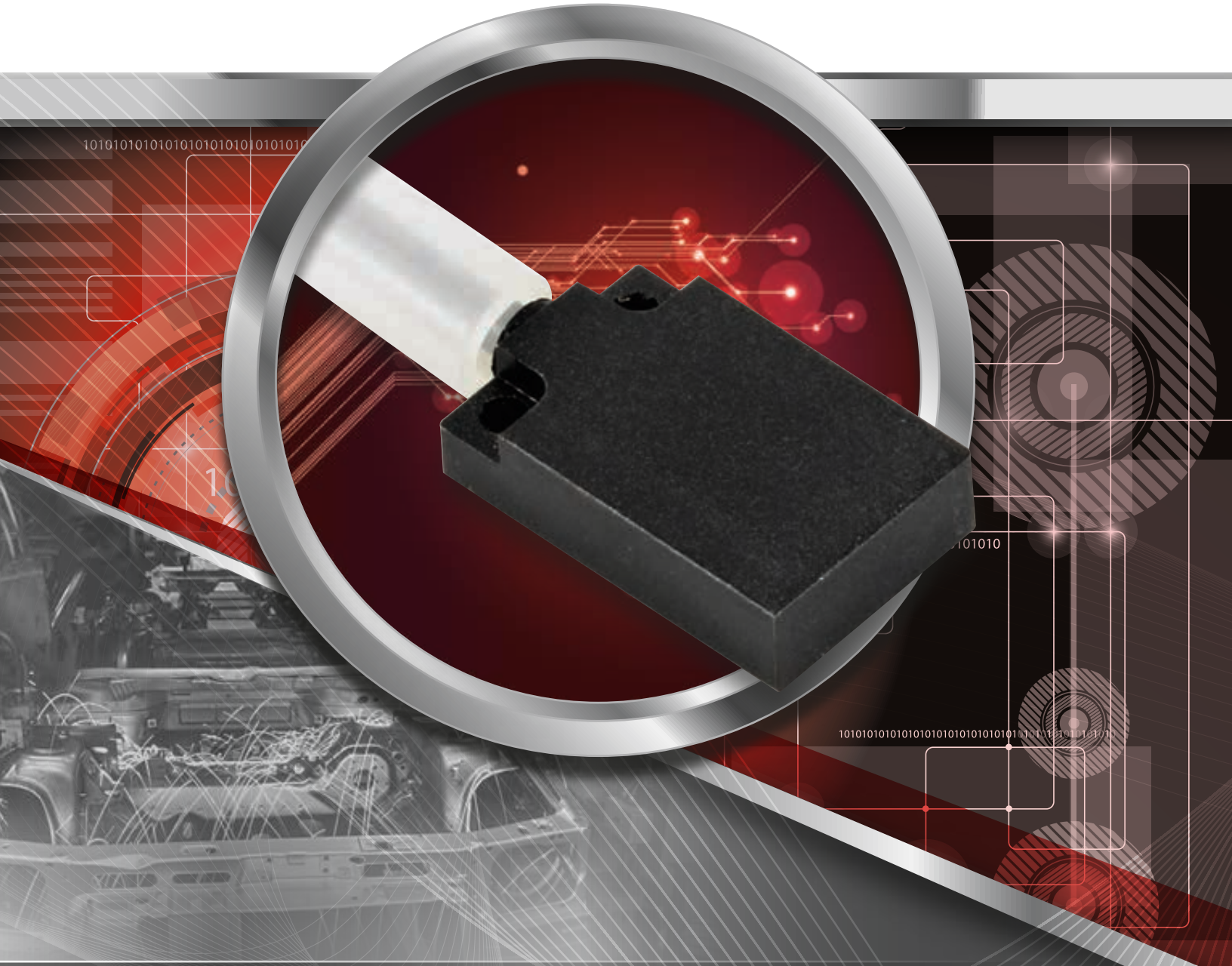


SENSING DISTANCE	2 mm	2 mm	4 mm	8 mm	15 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +120 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	1-piece Face and Body - Black SpatterGuard™ Coated Titanium or Stainless Steel				
TITANIUM SERIES PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACL3-PTFE-120C-WFI-TC4	ECS1-0802P-ARU4-PTFE-120C-WFI-TC4	ECS1-1204P-ARU4-PTFE-120C-WFI-TC4	ECS1-1808P-ARU4-PTFE-120C-WFI-TC4	ECS1-3015P-ARU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCL3-PTFE-120C-WFI-TC4	ECS1-0802P-BRU4-PTFE-120C-WFI-TC4	ECS1-1204P-BRU4-PTFE-120C-WFI-TC4	ECS1-1808P-BRU4-PTFE-120C-WFI-TC4	ECS1-3015P-BRU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACL3-PTFE-120C-WFI-TC4	ECS1-0802N-ARU4-PTFE-120C-WFI-TC4	ECS1-1204N-ARU4-PTFE-120C-WFI-TC4	ECS1-1808N-ARU4-PTFE-120C-WFI-TC4	ECS1-3015N-ARU4-PTFE-120C-WFI-TC4
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCL3-PTFE-120C-WFI-TC4	ECS1-0802N-BRU4-PTFE-120C-WFI-TC4	ECS1-1204N-BRU4-PTFE-120C-WFI-TC4	ECS1-1808N-BRU4-PTFE-120C-WFI-TC4	ECS1-3015N-BRU4-PTFE-120C-WFI-TC4
STAINLESS SERIES PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	ECS1-0802P-ACL3-PTFE-120C-WFI	ECS1-0802P-ARU4-PTFE-120C-WFI	ECS1-1204P-ARU4-PTFE-120C-WFI	ECS1-1808P-ARU4-PTFE-120C-WFI	ECS1-3015P-ARU4-PTFE-120C-WFI
DC 3-wire 10-30 V PNP - Closed	ECS1-0802P-BCL3-PTFE-120C-WFI	ECS1-0802P-BRU4-PTFE-120C-WFI	ECS1-1204P-BRU4-PTFE-120C-WFI	ECS1-1808P-BRU4-PTFE-120C-WFI	ECS1-3015P-BRU4-PTFE-120C-WFI
DC 3-wire 10-30 V NPN - Open	ECS1-0802N-ACL3-PTFE-120C-WFI	ECS1-0802N-ARU4-PTFE-120C-WFI	ECS1-1204N-ARU4-PTFE-120C-WFI	ECS1-1808N-ARU4-PTFE-120C-WFI	ECS1-3015N-ARU4-PTFE-120C-WFI
DC 3-wire 10-30 V NPN - Closed	ECS1-0802N-BCL3-PTFE-120C-WFI	ECS1-0802N-BRU4-PTFE-120C-WFI	ECS1-1204N-BRU4-PTFE-120C-WFI	ECS1-1808N-BRU4-PTFE-120C-WFI	ECS1-3015N-BRU4-PTFE-120C-WFI

Short body versions available upon request.
NOTE: Specifications subject to change without notification.

WELD FIELD IMMUNE METALHEAD™ SENSORS WITH BLACK SPATTERGUARD™ ARE THE BEST CHOICE FOR AUTOMATED WELD CELLS WHERE A MORE DURABLE SENSOR IS REQUIRED TO REDUCE DOWNTIME.

HTM™ SENSORS



- FIXED MOUNT SENSORS FOR EASY MOUNTING
- RELIABLE SENSING DISTANCE
- NOW AVAILABLE IN METALHEAD™ VERSIONS
- AVAILABLE WITH METALBRAID OR PRE-INSTALLED SILICONE TUBING
- AVAILABLE WITH SPATTERGUARD™ COATING FOR WELDING AREAS
- AVAILABLE IN M8 OR M12 CONNECTORS OR PRE-WIRED

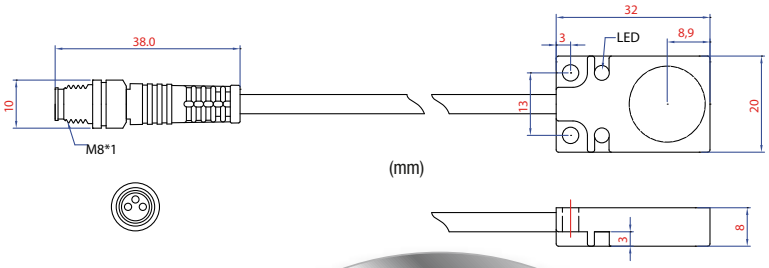
HTM™ SENSORS LIFETIME WARRANTY

METALHEAD™ FLATPACK SENSORS SPECIFICATIONS

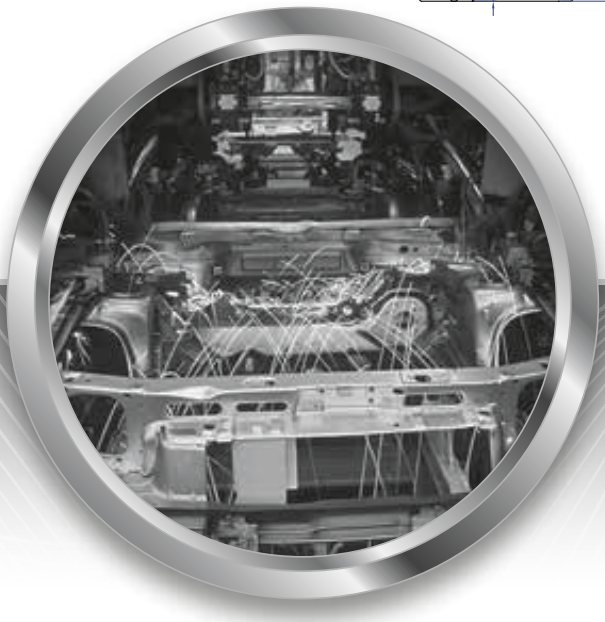
	FLAT PACK	SILICONE	STAMPING	METALHEAD	WELDING
DIMENSIONS	20 mm x 32 mm x 8 mm				
SENSING DISTANCE	8 mm				
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 ºC - +100 ºC				
HOUSING MATERIAL	PTFE Coated Brass Housing / PBT Sensing Face		1-Piece Stainless Steel Face and Body	1-Piece PTFE Coated Stainless Steel Face and Body	
CABLE JACKET		Factory Pre-Installed High Temperature Silicone Jacket		Cut Resistant Braided Stainless Steel Cable Jacket	Factory Pre-Installed High Temperature Silicone Fiberglass Jacket
PNP - N/O - 0.3 m Pigtail M12	EQM1-2008P-A3U0.3/P12-PTFE-100C	EQM1-2008P-A3U0.3/P12-PTFE-100C-S	EQS1-2008P-A3U0.3/P12-100C	EQS1-2008P-A3U0.3/P12-PTFE-100C-HD	EQS1-2008P-A3U0.3/P12-PTFE-100C-WD
PNP - N/O - 0.7 m Pigtail M12	EQM1-2008P-A3U0.7/P12-PTFE-100C	EQM1-2008P-A3U0.7/P12-PTFE-100C-S	EQS1-2008P-A3U0.7/P12-100C	EQS1-2008P-A3U0.7/P12-PTFE-100C-HD	EQS1-2008P-A3U0.7/P12-PTFE-100C-WD
PNP - N/O - 0.3 m Pigtail M8	EQM1-2008P-A3U0.3/P8-PTFE-100C	EQM1-2008P-A3U0.3/P8-PTFE-100C-S	EQS1-2008P-A3U0.3/P8-100C	EQS1-2008P-A3U0.3/P8-PTFE-100C-HD	EQS1-2008P-A3U0.3/P8-PTFE-100C-WD
PNP - N/O - 0.7 m Pigtail M8	EQM1-2008P-A3U0.7/P8-PTFE-100C	EQM1-2008P-A3U0.7/P8-PTFE-100C-S	EQS1-2008P-A3U0.7/P8-100C	EQS1-2008P-A3U0.7/P8-PTFE-100C-HD	EQS1-2008P-A3U0.7/P8-PTFE-100C-WD
NPN - N/O - 0.3 m Pigtail M12	EQM1-2008N-A3U0.3/P12-PTFE-100C	EQM1-2008N-A3U0.3/P12-PTFE-100C-S	EQS1-2008N-A3U0.3/P12-100C	EQS1-2008N-A3U0.3/P12-PTFE-100C-HD	EQS1-2008N-A3U0.3/P12-PTFE-100C-WD
NPN - N/O - 0.7 m Pigtail M12	EQM1-2008N-A3U0.7/P12-PTFE-100C	EQM1-2008N-A3U0.7/P12-PTFE-100C-S	EQS1-2008N-A3U0.7/P12-100C	EQS1-2008N-A3U0.7/P12-PTFE-100C-HD	EQS1-2008N-A3U0.7/P12-PTFE-100C-WD
NPN - N/O - 0.3 m Pigtail M8	EQM1-2008N-A3U0.3/P8-PTFE-100C	EQM1-2008N-A3U0.3/P8-PTFE-100C-S	EQS1-2008N-A3U0.3/P8-100C	EQS1-2008N-A3U0.3/P8-PTFE-100C-HD	EQS1-2008N-A3U0.3/P8-PTFE-100C-WD
NPN - N/O - 0.7 m Pigtail M8	EQM1-2008N-A3U0.7/P8-PTFE-100C	EQM1-2008N-A3U0.7/P8-PTFE-100C-S	EQS1-2008N-A3U0.7/P8-100C	EQS1-2008N-A3U0.7/P8-PTFE-100C-HD	EQS1-2008N-A3U0.7/P8-PTFE-100C-WD

NOTE: Specifications subject to change without notification.

***N/C versions available, change A to B in part #
***Pre-wired versions available, change P8 or P12 to cable length, ie. 2 m, 5 m
***AC and DC 2-wire models may be available



METALHEAD™ FLATPACK SENSORS OFFER A RELIABLE SENSING RANGE WITH EASY MOUNTING AND LONG LASTING PERFORMANCE WITH A STEEL FACE AND DURABLE CABLE OPTIONS.



HTM™ SENSORS

- FIXED MOUNT SENSORS FOR EASY MOUNTING
- RELIABLE SENSING DISTANCE
- NOW AVAILABLE IN METALHEAD™ VERSIONS
- AVAILABLE WITH METALBRAID OR PRE-INSTALLED SILICONE TUBING
- AVAILABLE WITH SPATTERGUARD™ COATING FOR WELDING AREAS
- AVAILABLE IN M8 OR M12 CONNECTORS OR PRE-WIRED

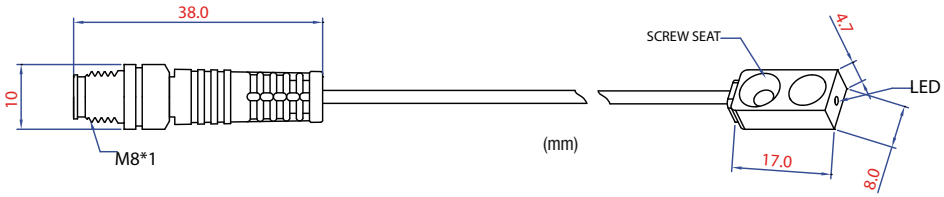
HTM™ SENSORS LIFETIME WARRANTY

METALHEAD™ FLATPACK SENSORS SPECIFICATIONS

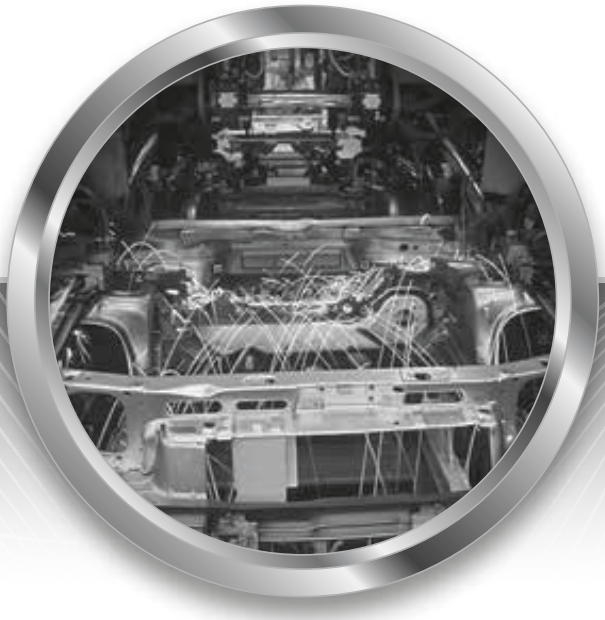
DIMENSIONS	8 mm x 17 mm x 4.7 mm				
SENSING DISTANCE	2 mm				
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 ºC - +100 ºC				
HOUSING MATERIAL	PTFE Coated Brass Housing with Plastic Sensing Face		1-Piece Stainless Steel Body and Sensing Face		
CABLE MATERIAL	Oil Resistant PUR Cable	Oil Resistant PUR Cable	Oil Resistant PUR Cable	Oil Resistant PUR Cable	Oil Resistant PUR Cable
CABLE JACKET		Factory Pre-Installed High Temperature Silicone Jacket		Cut Resistant Braided Stainless Steel Cable Jacket	Factory Pre-Installed High Temperature Silicone Fiberglass Jacket
PNP - N/O - 0.3 m Pigtail M12	MQM1-8802P-A3U0.3/P12-PTFE-100C	MQM1-8802P-A3U0.3/P12-PTFE-100C-WD	MQS1-8802P-A3U0.3/P12-PTFE-100C	MQS1-8802P-A3U0.3/P12-PTFE-100C-HD	MQS1-8802P-A3U0.3/P12-PTFE-100C-WD
PNP - N/O - 0.7 m Pigtail M12	MQM1-8802P-A3U0.7/P12-PTFE-100C	MQM1-8802P-A3U0.7/P12-PTFE-100C-WD	MQS1-8802P-A3U0.7/P12-PTFE-100C	MQS1-8802P-A3U0.7/P12-PTFE-100C-HD	MQS1-8802P-A3U0.7/P12-PTFE-100C-WD
PNP - N/O - 0.3 m Pigtail M8	MQM1-8802P-A3U0.3/P8-PTFE-100C	MQM1-8802P-A3U0.3/P8-PTFE-100C-WD	MQS1-8802P-A3U0.3/P8-PTFE-100C	MQS1-8802P-A3U0.3/P8-PTFE-100C-HD	MQS1-8802P-A3U0.3/P8-PTFE-100C-WD
PNP - N/O - 0.7 m Pigtail M8	MQM1-8802P-A3U0.7/P8-PTFE-100C	MQM1-8802P-A3U0.7/P8-PTFE-100C-WD	MQS1-8802P-A3U0.7/P8-PTFE-100C	MQS1-8802P-A3U0.7/P8-PTFE-100C-HD	MQS1-8802P-A3U0.7/P8-PTFE-100C-WD
NPN - N/O - 0.3 m Pigtail M12	MQM1-8802N-A3U0.3/P12-PTFE-100C	MQM1-8802N-A3U0.3/P12-PTFE-100C-WD	MQS1-8802N-A3U0.3/P12-PTFE-100C	MQS1-8802N-A3U0.3/P12-PTFE-100C-HD	MQS1-8802N-A3U0.3/P12-PTFE-100C-WD
NPN - N/O - 0.7 m Pigtail M12	MQM1-8802N-A3U0.7/P12-PTFE-100C	MQM1-8802N-A3U0.7/P12-PTFE-100C-WD	MQS1-8802N-A3U0.7/P12-PTFE-100C	MQS1-8802N-A3U0.7/P12-PTFE-100C-HD	MQS1-8802N-A3U0.7/P12-PTFE-100C-WD
NPN - N/O - 0.3 m Pigtail M8	MQM1-8802N-A3U0.3/P8-PTFE-100C	MQM1-8802N-A3U0.3/P8-PTFE-100C-WD	MQS1-8802N-A3U0.3/P8-PTFE-100C	MQS1-8802N-A3U0.3/P8-PTFE-100C-HD	MQS1-8802N-A3U0.3/P8-PTFE-100C-WD
NPN - N/O - 0.7 m Pigtail M8	MQM1-8802N-A3U0.7/P8-PTFE-100C	MQM1-8802N-A3U0.7/P8-PTFE-100C-WD	MQS1-8802N-A3U0.7/P8-PTFE-100C	MQS1-8802N-A3U0.7/P8-PTFE-100C-HD	MQS1-8802N-A3U0.7/P8-PTFE-100C-WD

NOTE: Specifications subject to change without notification.

*** N/C versions available, change A to B in part #
*** Pre-Wired versions available, change P8 to cable length, ie. 2 m, 5 m



METALHEAD™ FLATPACK SENSORS OFFER A RELIABLE SENSING RANGE WITH EASY MOUNTING AND LONG LASTING PERFORMANCE WITH A STEEL FACE AND DURABLE CABLE OPTIONS.



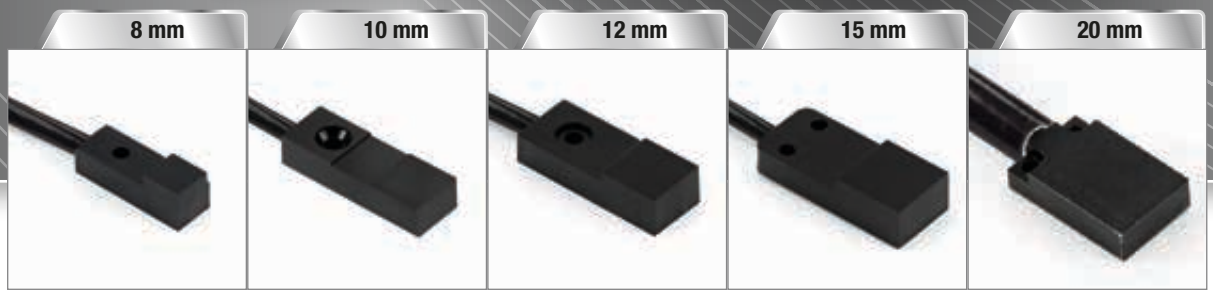
HIGH TEMPERATURE METALHEAD™ FLATPACK SENSORS

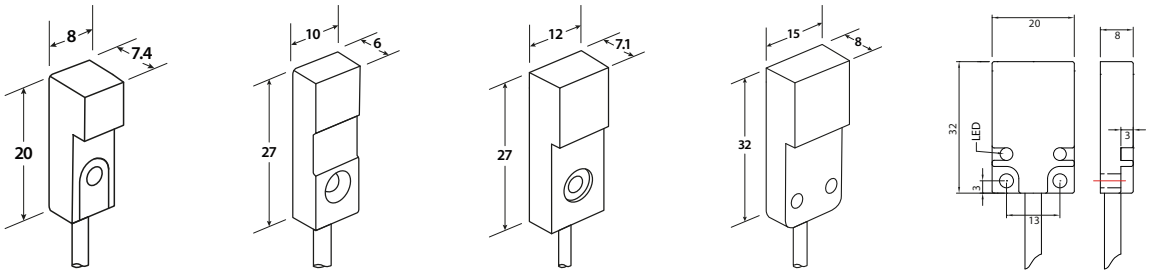
HTM™ SENSORS

- FIXED MOUNT SENSORS FOR EASY MOUNTING
- RELIABLE SENSING DISTANCE
- 1-PIECE STAINLESS STEEL HOUSINGS OFFER DURABILITY WITH A FIXED SENSING RANGE
- 120 °C WITH HIGH TEMPERATURE CABLE JACKETS FOR WELDING ENVIRONMENTS
- BLACK SPATTERGUARD™ COATING TO REPEL WELD SPATTER
- AVAILABLE IN M8 AND M12 CONNECTORS OR PRE-WIRED

HTM™ SENSORS LIFETIME WARRANTY

HIGH TEMPERATURE METALHEAD™ FLATPACK SENSORS SPECIFICATIONS



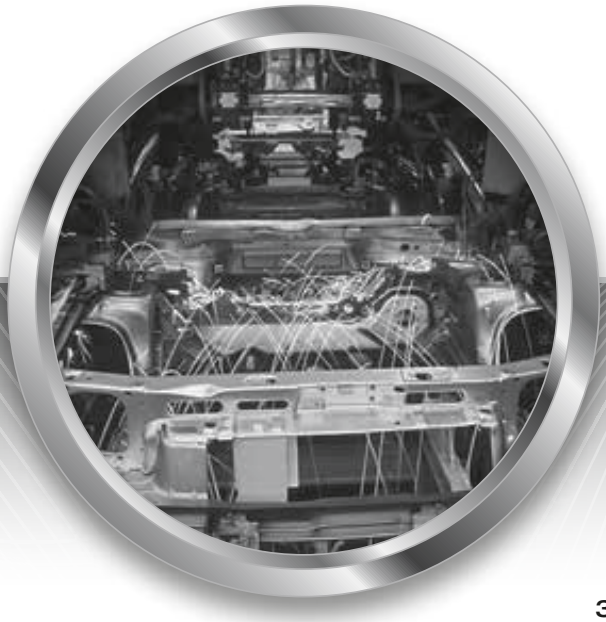


DIMENSIONS (mm)	8 W X 7.4 H x 20 L	10 W x 6 H x 27 L	12 W x 7.1 H x 27 L	15 W x 8 H x 32 L	20 W x 8 H x 32 L
SENSING DISTANCE	1.5 mm	3 mm	4 mm	4 mm	8 mm
OPERATING VOLTAGE	10-30 V DC				
OPERATING TEMPERATURE	-25 ºC - +120 ºC				
HOUSING MATERIAL	1-Piece Black SpatterGuard™ Coated Stainless Steel Face and Body				
CABLE JACKET	Factory Pre-Installed High Temperature Silicone Fiberglass Jacket				
PART NUMBERS					
PNP - N/O - 0.3 m Pigtail M8	MQS1-881.5P-A3U0.3/P8-PTFE-120C-WD	MQS1-1003P-A3U0.3/P8-PTFE-120C-WD	MQS1-1204P-A3U0.3/P8-PTFE-120C-WD	MQS1-1504P-A3U0.3/P8-PTFE-120C-WD	EQS1-2008P-A3U0.3/P8-PTFE-120C-WD
PNP - N/O - 0.3 m Pigtail M12	MQS1-881.5P-A3U0.3/P12-PTFE-120C-WD	MQS1-1003P-A3U0.3/P12-PTFE-120C-WD	MQS1-1204P-A3U0.3/P12-PTFE-120C-WD	MQS1-1504P-A3U0.3/P12-PTFE-120C-WD	EQS1-2008P-A3U0.3/P12-PTFE-120C-WD

NOTE: Specifications subject to change without notification.

***N/C versions available, change A to B in part #
***Pre-wired versions available, change 0.3/P8 or 0.3/P12 to cable length, ie. 2, 5.

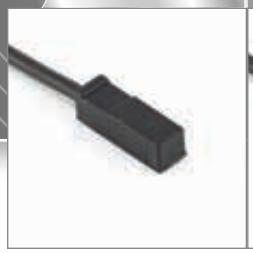
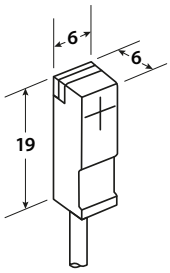
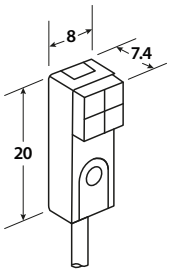
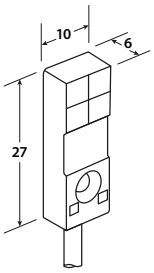
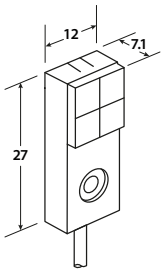
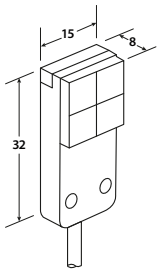
HIGH TEMPERATURE METALHEAD™ FLATPACK SENSORS OFFER A RELIABLE SENSING RANGE WITH EASY MOUNTING AND LONG LASTING PERFORMANCE DUE TO A STEEL FACE AND DURABLE CABLE OPTIONS.



HTM™ SENSORS

- MINIATURE PROXIMITY SENSORS FOR TIGHT MOUNTING SPACES
- IDEAL FOR USE IN STAMPING DIES FOR IN-DIE SENSING
- MOUNTING HOLE PROVIDES EASY INSTALLATION
- FIXED MOUNT SENSORS OFFER REPEATABLE INSTALLATION DISTANCE
- 5 m CABLE OR PIGTAIL CONNECTOR VERSIONS AVAILABLE FROM STOCK
- AVAILABLE IN PNP, NPN AND DC 2-WIRE OUTPUT FUNCTIONS

HTM™ SENSORS LIFETIME WARRANTY

6 mm	8 mm	10 mm	12 mm	15 mm
				
				

DIMENSIONS (mm)	6 W x 6 H x 19 L	8 W X 7.4 H x 20 L	10 W x 6 H x 27 L	12 W x 7.1 H x 27 L	15 W x 8 H x 32 L
SENSING DISTANCE	1.5 mm	2.5 mm	2 mm	2 mm	4 mm
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	MQP2-661.2P-A3L5F	MQP2-882.5P-A3L5F	MQP2-1002P-A3L5F	MQP2-1202P-A3L5F	MQP2-1504P-A3L5F
DC 3-wire 10-30 V PNP - Closed	MQP2-661.2P-B3L5F	MQP2-882.5P-B3L5F	MQP2-1002P-B3L5F	MQP2-1202P-B3L5F	MQP2-1504P-B3L5F
DC 3-wire 10-30 V NPN - Open	MQP2-661.2N-A3L5F	MQP2-882.5N-A3L5F	MQP2-1002N-A3L5F	MQP2-1202N-A3L5F	MQP2-1504N-A3L5F
DC 3-wire 10-30 V NPN - Closed	MQP2-661.2N-B3L5F	MQP2-882.5N-B3L5F	MQP2-1002N-B3L5F	MQP2-1202N-B3L5F	MQP2-1504N-B3L5F
DC 2-wire 10-60 V - Open	MQP2-661.2C-A3L5F	MQP2-882.5C-A3L5F	MQP2-1002C-A3L5F	MQP2-1202C-A3L5F	MQP2-1504C-A3L5F
DC 2-wire 10-60 V - Closed	MQP2-661.2C-B3L5F	MQP2-882.5C-B3L5F	MQP2-1002C-B3L5F	MQP2-1202C-B3L5F	MQP2-1504C-B3L5F

NOTE: Specifications subject to change without notification.

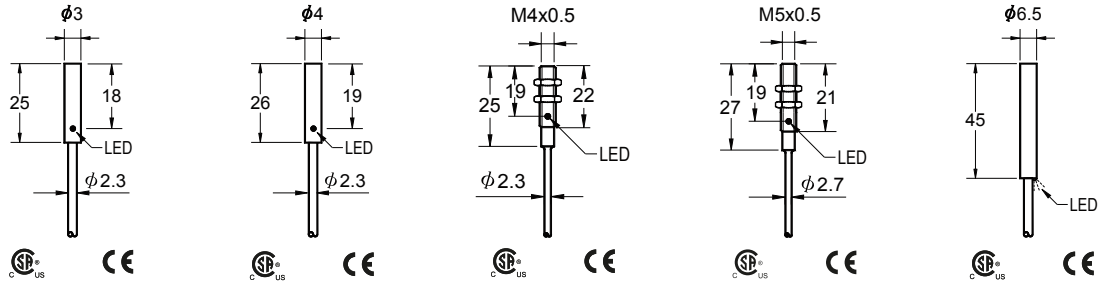
MINI FIXED-MOUNT SENSORS ARE IDEAL FOR TIGHT SPACES AND FOR APPLICATIONS THAT REQUIRE A REPEATABLE MOUNTING PLACEMENT.

HTM™ SENSORS

- MINIATURE SENSORS FOR SENSING METAL OBJECTS IN SMALL SPACES
- IDEAL FOR APPLICATIONS WHERE THE PART PLACEMENT IS REPEATABLE AND TIGHT IN TOLERANCE
- IDEAL FOR APPLICATIONS WHERE A SMALL SENSING DISTANCE IS REQUIRED FOR RELIABLE DETECTION
- AVAILABLE IN ANY PRE-WIRED CABLE LENGTH OR PIGTAILED CABLE LENGTH
- AVAILABLE IN M8 QUICK-CONNECT FOR EASY INSTALLATION
- MOST MODELS AVAILABLE IN EXTENDED RANGE OR LONG RANGE VERSIONS

HTM™ SENSORS LIFETIME WARRANTY

3 mm SMOOTH	4 mm SMOOTH	4 mm THREADED	5 mm THREADED	6 mm SMOOTH



SENSING DISTANCE	0.8 mm	0.8 mm	1 mm	1 mm	1 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
MOUNTING STYLE	Shielded				
HOUSING MATERIAL	Stainless Steel / PBT Sensing Face				
PART NUMBERS - 2 m CABLE VERSION					
DC 3-wire PNP - NO	FCU1-D0301P-A3U2	FCU1-D0401P-A3U2	FCU1-0401P-A3U2	FCU1-0501P-A3U2	FCU1-D0601P-A3U2
DC 3-wire PNP - NC	FCU1-D0301P-B3U2	FCU1-D0401P-B3U2	FCU1-0401P-B3U2	FCU1-0501P-B3U2	FCU1-D0601P-B3U2
DC 3-wire NPN - NO	FCU1-D0301N-A3U2	FCU1-D0401N-A3U2	FCU1-0401N-A3U2	FCU1-0501N-A3U2	FCU1-D0601N-A3U2
DC 3-wire NPN - NC	FCU1-D0301N-B3U2	FCU1-D0401N-B3U2	FCU1-0401N-B3U2	FCU1-0501N-B3U2	FCU1-D0601N-B3U2
0.3 m Cable to M8 3-Pin Connector					
DC 3-wire PNP - NO	FCU1-D0301P-A3U0.3/P8	FCU1-D0401P-A3U0.3/P8	FCU1-0401P-A3U0.3/P8	FCU1-0501P-A3U0.3/P8	FCU1-D0601P-A3U0.3/P8
DC 3-wire PNP - NC	FCU1-D0301P-B3U0.3/P8	FCU1-D0401P-B3U0.3/P8	FCU1-0401P-B3U0.3/P8	FCU1-0501P-B3U0.3/P8	FCU1-D0601P-B3U0.3/P8
DC 3-wire NPN - NO	FCU1-D0301N-A3U0.3/P8	FCU1-D0401N-A3U0.3/P8	FCU1-0401N-A3U0.3/P8	FCU1-0501N-A3U0.3/P8	FCU1-D0601N-A3U0.3/P8
DC 3-wire NPN - NC	FCU1-D0301N-B3U0.3/P8	FCU1-D0401N-B3U0.3/P8	FCU1-0401N-B3U0.3/P8	FCU1-0501N-B3U0.3/P8	FCU1-D0601N-B3U0.3/P8

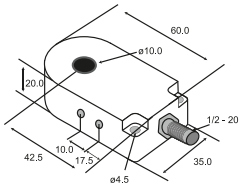
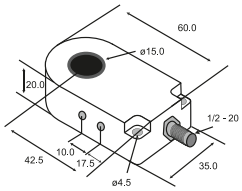
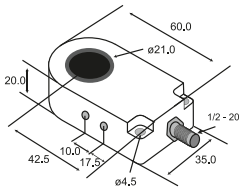
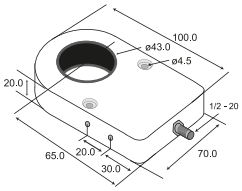
NOTE: Specifications subject to change without notification.

MINIATURE INDUCTIVE PROXIMITY SENSORS ARE PERFECT FOR TIGHT SPACES AND FOR MACHINES THAT REQUIRE A TIGHT SENSING TOLERANCE TO DETECT OBJECTS.

HTM™ SENSORS

- RING SENSORS FOR METAL PARTS DETECTION
- 4 SIZES AVAILABLE FROM 10 mm TO 43 mm
- CONVENIENT SIDE SCREW MOUNTING
- IDEAL FOR WELD WIRE DETECTION, OR SMALL PARTS DETECTION
- AVAILABLE IN AC OR DC, NPN OR PNP OUTPUTS WITH OR WITHOUT TIMING FUNCTION
- AVAILABLE IN M12 QUICK-CONNECT OR PRE-WIRED VERSIONS

HTM™ SENSORS LIFETIME WARRANTY

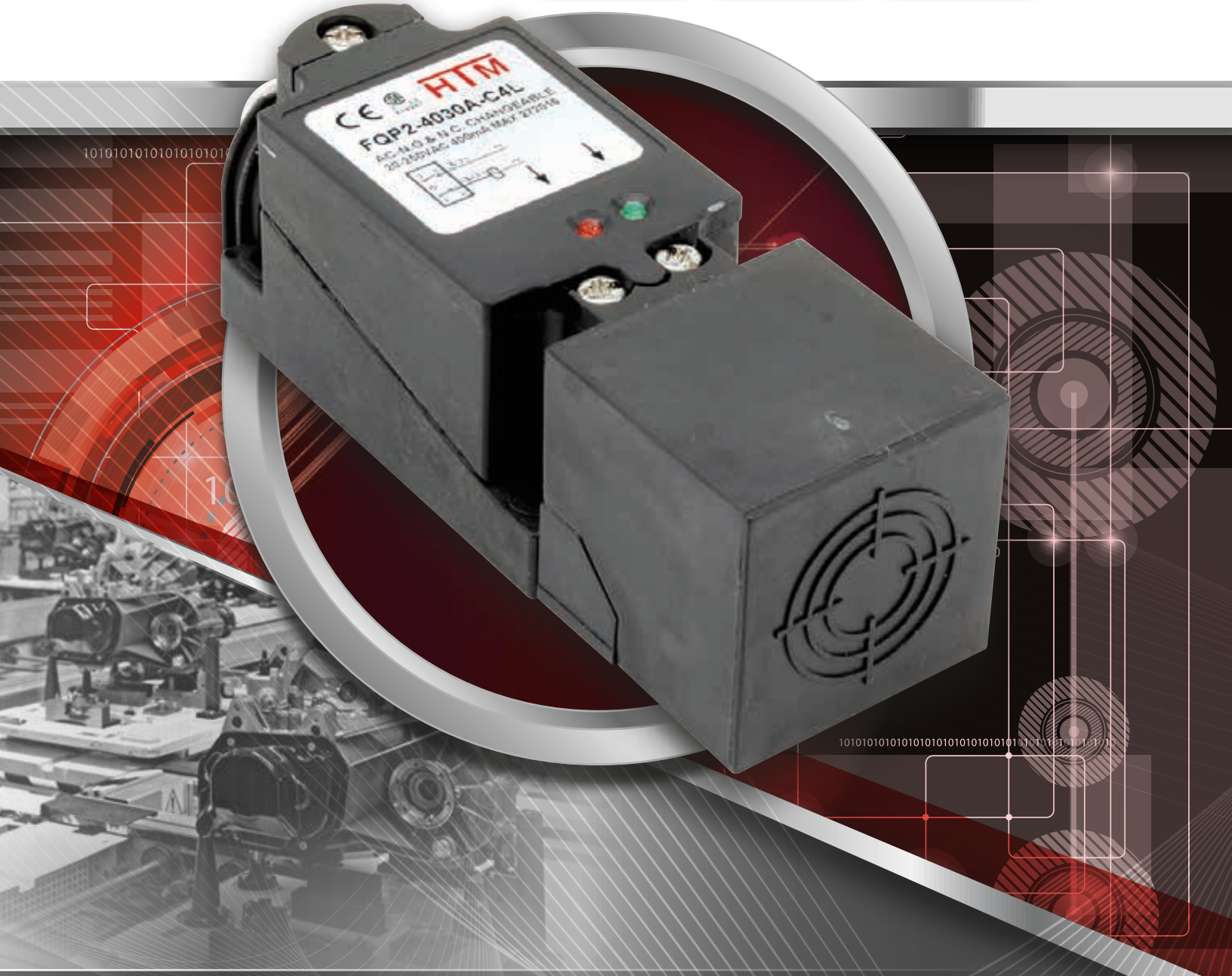
10 mm	15 mm	21 mm	43 mm
			

Min. Target Size	D=3 mm; L=6 mm	D=9 mm; L=18 mm	D=6 mm; L=12 mm	D=9 mm; L=18 mm
PART NUMBERS				
DC 3-wire 10-30 V NPN N.O.	RRP2-R1020N-ARU4	RRP2-R1520N-ARU4	RRP2-R2120N-ARU4	RRP2-R4320N-ARU4
DC 3-wire 10-30 V NPN N.C.	RRP2-R1020N-BRU4	RRP2-R1520N-BRU4	RRP2-R2120N-BRU4	RRP2-R4320N-BRU4
DC 3-wire 10-30 V PNP N.O.	RRP2-R1020P-ARU4	RRP2-R1520P-ARU4	RRP2-R2120P-ARU4	RRP2-R4320P-ARU4
DC 3-wire 10-30 V PNP N.C.	RRP2-R1020P-BRU4	RRP2-R1520P-BRU4	RRP2-R2120P-BRU4	RRP2-R4320P-BRU4
AC 2-wire 20-250 V N.O.	RRP2-R1020A-AUL3	RRP2-R1520A-AUL3	RRP2-R2120A-AUL3	RRP2-R4320A-AUL3
AC 2-wire 20-250 V N.C.	RRP2-R1020A-BUL3	RRP2-R1520A-BUL3	RRP2-R2120A-BUL3	RRP2-R4320A-BUL3

NOTE: Specifications subject to change without notification.

INDUCTIVE RING SENSORS OFFER THE RELIABLE SENSING OF METAL PARTS, WIRES, AND OBJECTS, WHERE THE PARTS ARE MOVING THROUGH AN AREA AND NEED TO BE DETECTED.

HTM™ SENSORS



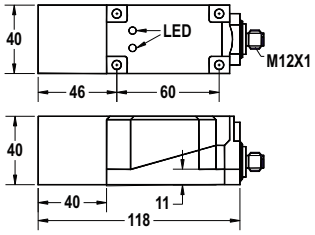
- EXTRA LONG DISTANCE FIXED MOUNT SENSING
- REPLACE COMMON LIMIT SWITCH FOOTPRINTS FOR EASY MOUNTING
- 5-WAY ROTATING HEAD TO SENSE FROM THE TOP, FRONT OR SIDES
- AC OR DC MODELS WITH QUICK-CONNECTORS OR WITH A CONDUIT WIRING OPTION

HTM™ SENSORS ★LIFETIME★ WARRANTY

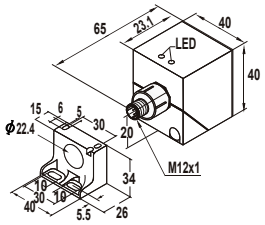
MOUNTING STYLE	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
SENSING DISTANCE	15 mm	30 mm	15 mm	30 mm	15 mm	30 mm
OPERATING VOLTAGE	10-30 V DC					
OPERATING TEMPERATURE	-25 ºC to +75 ºC					
HOUSING MATERIAL	PBT					
CONNECTION	M12 4-PIN				Terminal Chamber	
PART NUMBERS						
PNP Normally Open	FQP1-4015P-ARU4	FQP2-4030P-ARU4	FQP1-4015P-ARS4	FQP2-4030P-ARS4		
AC N.O./N.C Selectable					FQP1-4015A-C4L	FQP2-4030A-C4L

NPN versions available. Change P to N in part number. Ex. FQP1-4015P-ARU4 to FQP1-4015N-ARU4

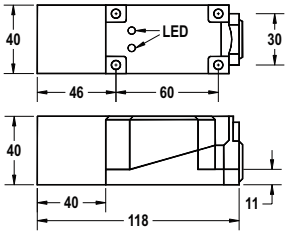
FQP1-4015P-ARU4 / FQP2-4030P-ARU4



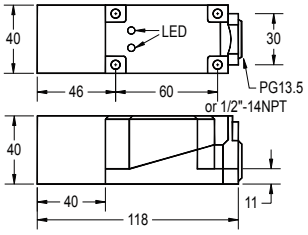
FQP1-4015P-ARS4 / FQP2-4030P-ARS4



FQP1-4015P-C4L



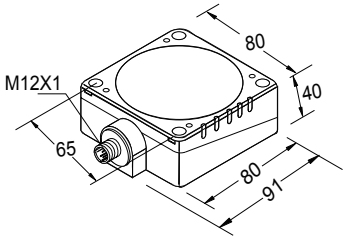
FQP2-4030P-C4L



DIMENSIONS	80 x 40 x 91 mm
SENSING DISTANCE	50 mm
OPERATING VOLTAGE	10-30 V DC
OPERATING TEMPERATURE	-25 ºC to +75 ºC
HOUSING MATERIAL	PBT
CONNECTION	M12 4-PIN
PART NUMBERS	
PNP Normally Open	FQP2-8050PP-SRU4T

NPN versions available. Change P to N in part number.

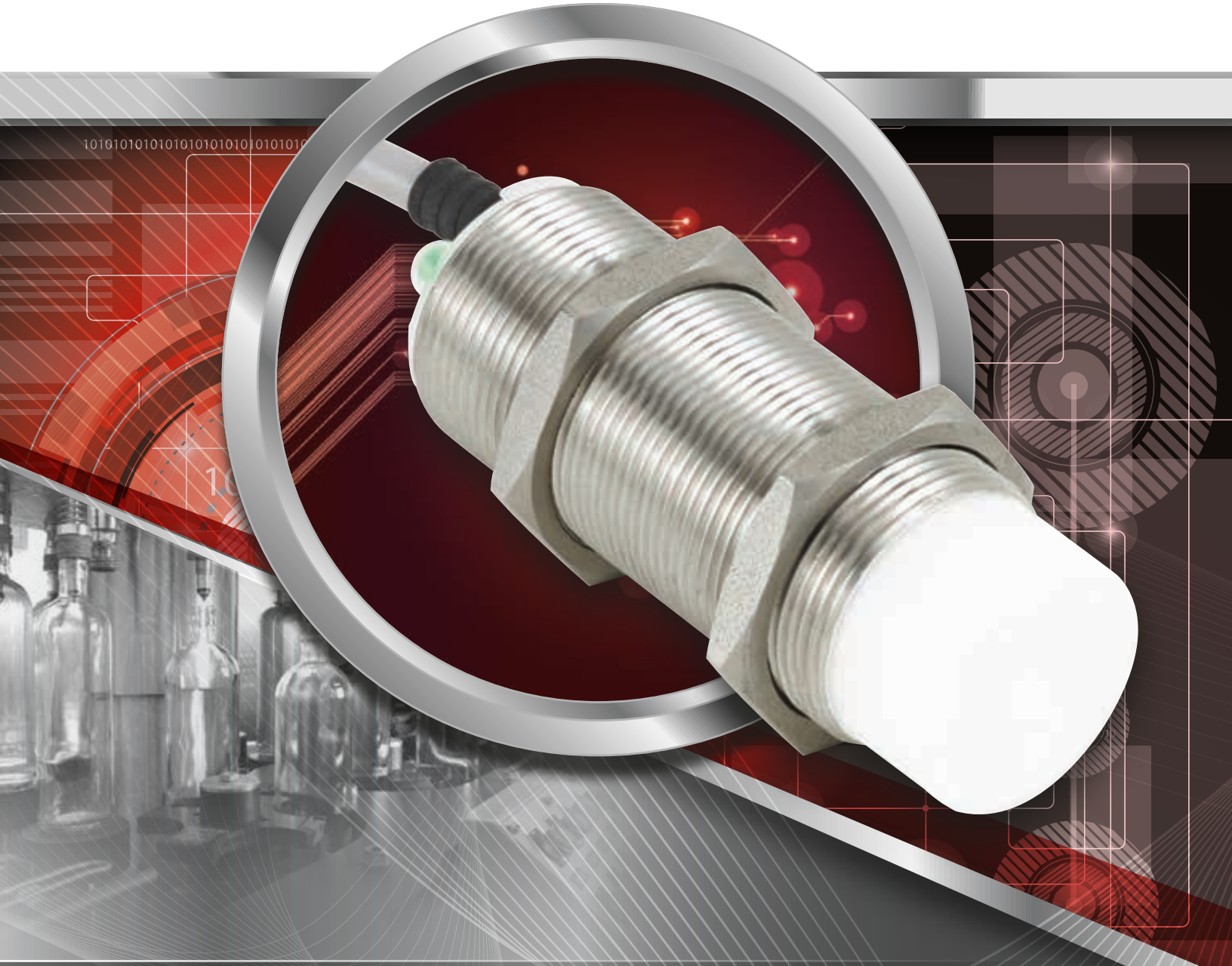
FQP2-8050PP-SRU4T



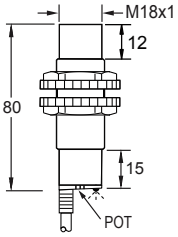
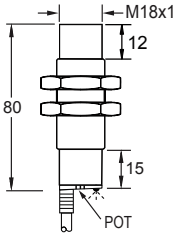
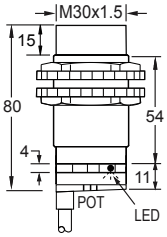
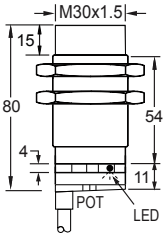
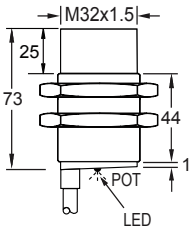
NOTE: Specifications subject to change without notification.

LIMIT SWITCH STYLE PROXIMITY SENSORS PROVIDE EXTRA LONG NON-CONTACT SENSING DISTANCES TO RELIABLY DETECT METAL OBJECTS. THESE SENSORS COMMONLY REPLACE LIMIT SWITCHES WITH SIMILAR MOUNTING FOOTPRINTS.

HTM™ SENSORS



- CAPACITIVE SENSORS FOR LEVEL CONTROL AND NON-METALLIC PRESENCE DETECTION
- AVAILABLE IN PLASTIC OR STAINLESS STEEL HOUSINGS
- AVAILABLE WITH A PRE-WIRED CABLE OF ANY LENGTH, OR WITH A QUICK-CONNECT
- AVAILABLE WITH PNP, NPN, AC AND AC/DC OUTPUT FUNCTIONS
- AVAILABLE IN SHIELDED OR UNSHIELDED CONSTRUCTION FOR ANY APPLICATION
- IDEAL FOR USE IN MACHINES THAT REQUIRE NON-METALLIC, NON-CONTACT SENSING

M18 - PLASTIC	M18 - STAINLESS	M30 - PLASTIC	M30 - STAINLESS	M32 - STAINLESS
				

SENSING DISTANCE	1-15 mm adjustable	1-15 mm adjustable	1-30 mm adjustable	1-30 mm adjustable	1-40 mm adjustable
OPERATING TEMPERATURE	-25 °C - +70 °C				
SENSING FACE MATERIAL	PBT Plastic	PTFE	PBT Plastic	PTFE	PTFE
HOUSING MATERIAL	PBT Plastic	Stainless Steel	PBT Plastic	Stainless Steel	Stainless Steel
PART NUMBERS					
DC 3-wire 10-30 V PNP - Open	CCP2-1815P-A3U2	CCU2-1815P-A3U2	CCP2-3030P-A3U2	CCU2-3030P-A3U2	CCU2-3240P-A3U2
DC 3-wire 10-30 V PNP - Closed	CCP2-1815P-B3U2	CCU2-1815P-B3U2	CCP2-3030P-B3U2	CCU2-3030P-B3U2	CCU2-3240P-B3U2
DC 3-wire 10-30 V NPN - Open	CCP2-1815N-A3U2	CCU2-1815N-A3U2	CCP2-3030N-A3U2	CCU2-3030N-A3U2	CCU2-3240N-A3U2
DC 3-wire 10-30 V NPN - Closed	CCP2-1815N-B3U2	CCU2-1815N-B3U2	CCP2-3030N-B3U2	CCU2-3030N-B3U2	CCU2-3240N-B3U2
AC 20-240 V AC - Open	CCP2-1815A-A3L2	CCU2-1815A-A3L2	CCP2-3030A-A3L2	CCU2-3030A-A3L2	CCU2-3240A-A3L2
AC 20-240 V AC - Closed	CCP2-1815A-B3L2	CCU2-1815A-B3L2	CCP2-3030A-B3L2	CCU2-3030A-B3L2	CCU2-3240A-B3L2

NOTE: Specifications subject to change without notification.

*Flatpack, M8 and M12 sizes available.

CAPACITIVE SENSORS ARE THE BEST CHOICE FOR THE RELIABLE DETECTION OF LIQUIDS, BULK SOLIDS, PLASTICS, POWDERS, PELLETS AND PASTES WHERE A NON-CONTACT SOLUTION IS REQUIRED.

HTM™ SENSORS

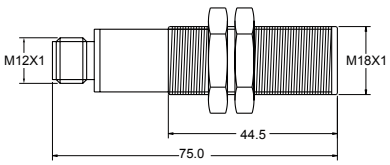
- M18 PHOTOELECTRIC SENSORS FOR EASY MOUNTING
- DURABLE METAL HOUSING FOR ALL APPLICATIONS
- QUICK-CONNECT FOR EASY INSTALLATION
- AVAILABLE IN PNP, NPN AND AC MODELS
- AVAILABLE IN DIFFUSE, RETROREFLECTIVE AND THRU-BEAM
- NEW: AVAILABLE LASER MODELS

M18 PHOTOELECTRIC SENSORS SPECIFICATIONS

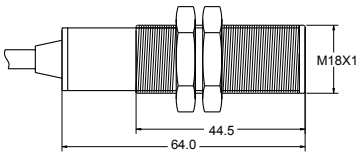
	DIFFUSE	POLARIZED REFLECTIVE	THRU-BEAM	BACKGROUND SUPPRESSION	LASER DIFFUSE
SENSING DISTANCE	500 mm	1 m	15 m	100 mm	350 mm
LIGHT EMISSION	Infrared LED (880 nm)	RED LED (660 nm)	Infrared LED (880 n)	RED LED (680 nm)	Red Laser: Class 1 - EN 60825-1
POWER SUPPLY	10-30 V DC / 20-250 V AC Models			10-30 V DC	
CURRENT CONSUMPTION	30 mA Max. / 5 mA Max AC Models				35 mA Max.
MAX. CURRENT LOAD	200 mA / 300 mA AC Models			100 mA Max.	
VOLTAGE DROP	2.5 V Max. / 10 V AC Models			2 V Max.	
RESPONSE TIME	1.5 ms			1 ms	333 microseconds
HOUSING MATERIAL	Nickel-Plated Brass / Stainless Steel Available - PMMA or PBT Lens				
MECHANICAL PROTECTION	IP67				
Quick Connect (Dimensions)	M18 x 75 mm	M18 x 75 mm	M18 x 75 mm	M18 x 71.5 mm	M18 x 71.5 mm
DC Emitter			M18B-T015MD-EX9Q4LE		
PNP - Light On/Dark On	M18B-D0500P-CX9Q4UE	M18B-L1000P-CX9Q4UE-PF	M18B-T015MP-CX9Q4UE	M18B-D0100P-CX6Q4UE-BS	M18B-D0350P-CX8Q4UE-LSR
NPN - Light On/Dark On	M18B-D0500N-CX9Q4UE	M18B-L1000N-CX9Q4UE-PF	M18B-T015MN-CX9Q4UE	M18B-D0100N-CX6Q4UE-BS	M18B-D0350N-CX8Q4UE-LSR
AC Emitter			M18B-T015MA-EX9Q4LM		
AC - Light On	M18B-D0500A-LX9Q4UM	M18B-L1000A-LX9Q4UM-PF	M18B-T015MA-LX9Q4UM		
AC - Dark On	M18B-D0500A-DX9Q4UM	M18B-L1000A-DX9Q4UM-PF	M18B-T015MA-DX9Q4UM		
Pre-wired Cable (Dimensions)	M18 x 64 mm	M18 x 64 mm	M18 x 64 mm	M18 x 57 mm	M18 x 57 mm
DC Emitter			M18B-T015MD-EX9C4U2		
PNP - Light On/Dark On	M18B-D0500P-CX9C4U2	M18B-L1000P-CX9C4U2-PF	M18B-T015MP-CX9C4U2	M18B-D0100P-CX9C4U2-BS	M18B-D0350P-CX8C4U2-LSR
NPN - Light On/Dark On	M18B-D0500N-CX9C4U2	M18B-L1000N-CX9C4U2-PF	M18B-T015MN-CX9C4U2	M18B-D0100N-CX9C4U2-BS	M18B-D0350N-CX8C4U2-LSR
AC Emitter			M18B-T015MA-EX9C3L2		
AC - Light On	M18B-D0500A-LX9C3U2	M18B-L1000A-LX9C3U2-PF	M18B-T015MA-LX9C3U2		
AC - Dark On	M18B-D0500A-DX9C3U2	M18B-L1000A-DX9C3U2-PF	M18B-T015MA-DX9C3U2		

NOTE: Specifications subject to change without notification.

QUICK CONNECT



PRE-WIRED



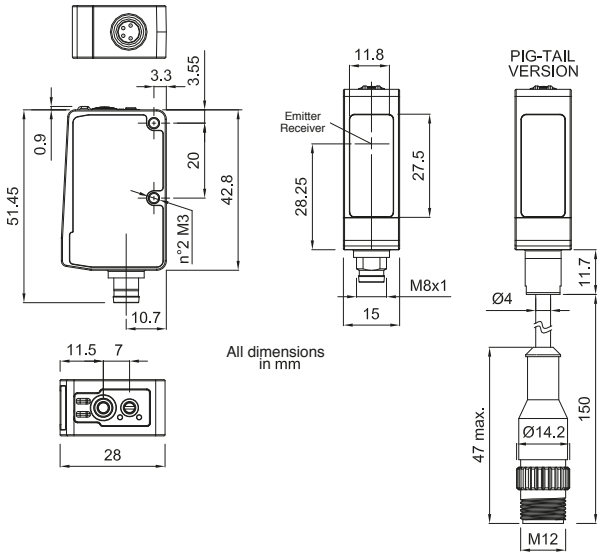
M18 PHOTOELECTRICS ARE A VERSATILE AND ECONOMICAL STYLE FOR MANY SENSING APPLICATIONS. THE METAL HOUSING IS DURABLE AND THE STANDARD M18 SIZE IS EASY TO MOUNT FOR A QUICK INSTALLATION AND RELIABLE OPERATION.

HTM SENSORS™

- DURABLE STAINLESS STEEL IP69K PHOTOELECTRIC SENSOR
- IP69K FOR WASHDOWN AREAS, AND AROUND CHEMICALS AND OIL
- RUGGED HOUSING FOR AUTOMOTIVE APPLICATIONS
- HIGH QUALITY CONSTRUCTION AND PERFORMANCE
- AVAILABLE IN CLEAR OBJECT AND LASER BGS
- AVAILABLE IN BGS, RETROREFLECTIVE AND THRU-BEAM

	CLEAR OBJECT DIFFUSE	POLARIZED REFLECTIVE	THRU-BEAM	BACKGROUND SUPPRESSION	LASER BACKGROUND SUPPRESSION
SENSING DISTANCE	300 mm	5 m	25 m	50 - 300 mm	20 - 200 mm
SETTING	Pushbutton Teach	Adjustment Trimmer	Adjustment Trimmer	Adjustment Trimmer	Adjustment Trimmer
LIGHT EMISSION	Red LED (660 nm)	RED LED (660 nm)	RED LED (660 nm)	RED LED (660 nm)	Red Laser: Class 2-EN 60825-1
POWER SUPPLY	12-30 VDC				
CURRENT CONSUMPTION	35 mA	35 mA	15 mA Max. Emitter, 20 mA Max. Receiver	35 mA	35 mA Max.
MAX. CURRENT LOAD	100 mA (overload protection)				
VOLTAGE DROP	< 2 V				
RESPONSE TIME	500 µs	500 µs	500 µs	1 ms	333 microseconds
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz	500 Hz	5 kHz
HOUSING MATERIAL	Stainless Steel / PC Lens				
MECHANICAL PROTECTION	IP69K				
OPERATING TEMPERATURE	-10 ºC - +55 ºC				
VIBRATION	0.5 mm amplitude, 10-55 Hz frequency per axis (EN60068-2-6)				
SHOCK RESISTANCE	11 ms (30 G) 6 shocks per axis (EN60068-2-27)				
CONNECTION	M8 4-pin Quick-Connect				
DC Emitter			H80-TBPS-E25P-M08-4QD		
PNP - Light On/Dark On	H80-CODS-0300P-M08-4QD	H80-PRRS-5000P-M08-4QD	H80-TBPS-R25P-M08-4QD	H80-BGSS-0300P-M08-4QD	H80-LBGS-0200P-M08-4QD
NPN - Light On/Dark On	H80-CODS-0300N-M08-4QD	H80-PRRS-5000N-M08-4QD	H80-TBPS-R25N-M08-4QD	H80-BGSS-0300N-M08-4QD	H80-LBGS-0200P-M08-4QD

NOTE: Specifications subject to change without notification.



HIGH PERFORMANCE PHOTOELECTRIC SENSORS MADE OF STAINLESS STEEL AND CONFORM TO IP69K ARE IDEAL FOR APPLICATIONS WHERE A RUGGED AND SEALED UNIT IS REQUIRED FOR RELIABLE AND LONG-LASTING SENSING.

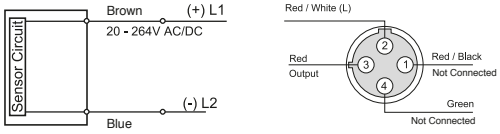
HTM™ SENSORS

- LONG RANGE PHOTOELECTRIC SENSORS
- RUGGED DESIGN FOR MANY APPLICATIONS
- BUILT-IN TIMERS AND DELAYS FOR RELIABLE OUTPUTS
- AVAILABLE IN PNP, NPN, AND AC MODELS
- AVAILABLE WITH DC OR AC QUICK-CONNECT OR PRE-WIRED MODELS
- AVAILABLE IN LONG RANGE DIFFUSE, RETROREFLECTIVE OR THRU-BEAM

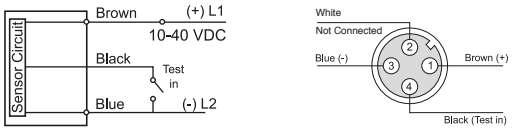
	THRU-BEAM	DIFFUSE	RETROREFLECTIVE	FIBER OPTIC	CLEAR OBJECT DETECTION
OPERATING RANGE	61 m (200 ft.)	3.04 m (10 ft.)	9.14 m (30 ft.)	Depends on fiber	1.20 m (3.9 ft.)
LIGHT EMISSION	Infrared LED (880 nm)	Infrared LED (880 nm)	RED LED (660 nm)	Infrared LED (880 nm)	RED LED (660 nm)
POWER SUPPLY	10-40 VDC or 12-240 VDC/24-240 VAC				
CURRENT CONSUMPTION	35 mA Max.				
INDICATOR LEDS	Green: Power, Yellow: Output, Red: Margin				
SATURATION VOLTAGE	2.5 V Max.				
OUTPUT CURRENT	DC Models 250 mA / Relay Models 10 A at 120 VAC / 5 A at 240 VAC				
RESPONSE TIME	NPN/PNP: 5 ms, SPDT Relay: 23 ms				
TIMING OPTIONS	No Delay, On Delay, Off Delay, One-shot (for Models with Timing Delay)				
TIME SETTINGS	Adjustable, 0.1...15 s (for Models with Timing Delay)				
MECHANICAL PROTECTION	IP67				
HOUSING MATERIAL	Glass Fiber Reinforced Plastic, Cover Gasket Material: Neoprene				
LENS MATERIAL	Acrylic				
OPERATING TEMPERATURE	-25...+55 °C (-13...+131 °F)				
STORAGE TEMPERATURE	-40...+55 °C (-40...+131 °F)				
REFERENCE STANDARD	EN 60947-5-2				
DC Models (10-40 VDC) M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right angle)					
Emitter	RP74-T061MD-EY9Q4LE				
NPN / PNP - with timing	RP74-T061MD-CY9Q4UE-TN	RP74-D3040D-CY9Q4UE-TN	RP74-L9140D-CY6Q4UE-TN	RP74-FGFD-CY9Q4UE-TN	RP74-S1200D-CY6Q4UE-TN
AC Models (12-240 VDC/24-240 VAC) ½"-20 UNF - Recommended Mating Cable: part # U-FS5TA-V105 (straight), U-FA5TA-V105 (right-angle) AC Emitter - U-FS4TAV105 (straight), U-FA4TAV105 (right angle)					
Emitter	RP74-T061MA-EY9Q4LM				
SPDT Relay - with timing	RP74-T061MR-CY9Q5LM-TN	RP74-D3040R-CY9Q5LM-TN	RP74-L9140R-CY6Q5LM-TN	RP74-FGFR-CY9Q5LM-TN	RP74-S1200R-CY6Q5LM-TN

NOTE: Specifications subject to change without notification.

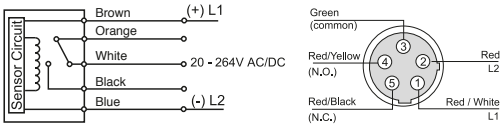
Emitter AC



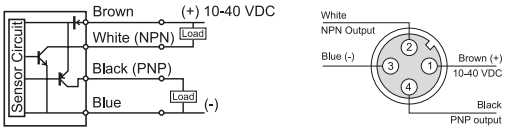
Emitter DC



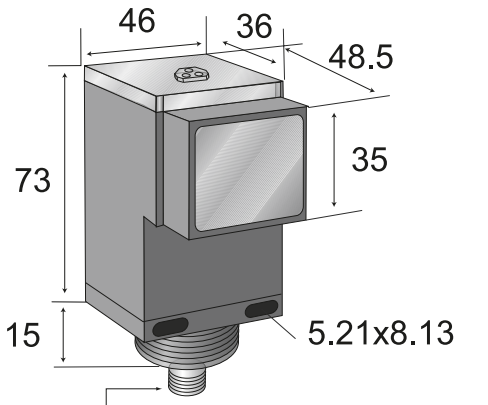
AC Receiver, Diffuse & Retro



NPN / PNP



LONG RANGE PHOTOELECTRIC SENSORS ARE IDEAL FOR SENSING OVER LONG DISTANCES, AND COME WITH A RUGGED HOUSING FOR A VARIETY OF APPLICATIONS.

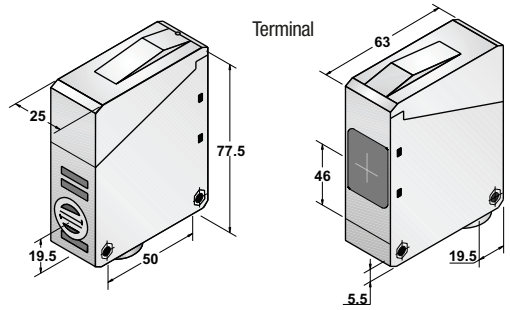


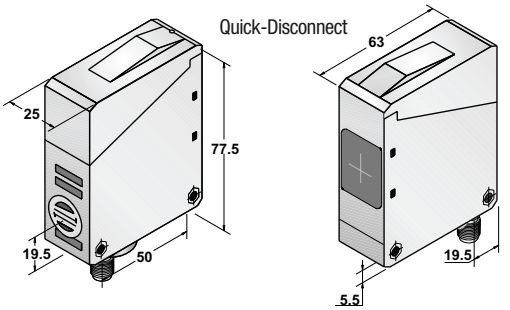
HTM™ SENSORS

- LONG RANGE PHOTOELECTRIC SENSORS
- RUGGED DESIGN FOR MANY APPLICATIONS
- BUILT-IN TIMERS AND DELAYS FOR RELIABLE OUTPUTS
- AVAILABLE IN PNP, NPN, AND AC AND DC MODELS
- AVAILABLE WITH DC OR AC QUICK-CONNECT OR TERMINAL MODELS
- AVAILABLE IN LONG RANGE DIFFUSE, RETROREFLECTIVE OR THRU-BEAM

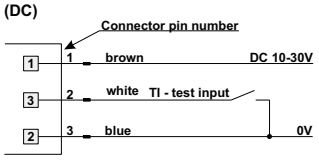
	THRU-BEAM	DIFFUSE	RETROREFLECTIVE
OPERATING RANGE	28 m (91.8 ft.)	0.3 m (11.8 in.)	10 m (32.8ft.)
LIGHT EMISSION	Infrared LED (880 nm)	Infrared LED (880 nm)	RED LED (660 nm)
POWER SUPPLY	DC: 10-30 VDC / AC: 20-250 VAC		
CURRENT CONSUMPTION	DC: <35 mA (no load) / AC: <2 VA		
INDICATOR LEDS	Green: Power, Yellow: Output, Red: Margin/SCP		
TIMING OPTIONS	No Delay, On Delay, Off Delay, One-shot (for Models with Timing Delay)		
TIME SETTINGS	Adjustable, 0.1...15 s (for Models with Timing Delay)		
MECHANICAL PROTECTION	IP66 / NEMA 4		
CIRCUIT PROTECTION	Reverse polarity protected (DC Models also have outputs short circuit and over current protected)		
HOUSING MATERIAL	Glass Fiber Reinforced Plastic		
LENS MATERIAL	Acrylic		
OPERATING TEMPERATURE	-25...+55 °C (-13...+131 °F)		
STORAGE TEMPERATURE	-40...+55 °C (-40...+131 °F)		
REFERENCE STANDARD	IEC 60947-5-2		
DC Models			
Emitter	RP76-T028MD-EY9T4L		
NPN - Timing Delay	RP76-T028MN-CY9T4U-T	RP76-D0300N-CY9T4U-BT	RP76-L010MN-CY6T4U-TP
PNP - Timing Delay	RP76-T028MP-CY9T4U-T	RP76-D0300P-CY9T4U-BT	RP76-L010MP-CY6T4U-TP
AC Models			
Emitter	RP76-T028MA-EY9T4L		
SPST Relay - Timing Delay	RP76-T028MR-CY9T4L-T	RP76-D0300R-CY9T4L-BT	RP76-L010MR-CY6T4L-TP

NOTE: Specifications subject to change without notification.

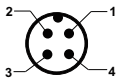




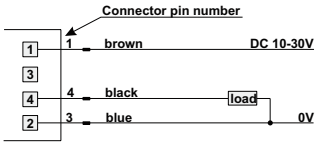
Emitter (DC)



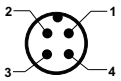
M12 Euco QD



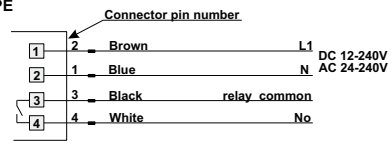
PNP



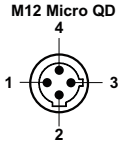
M12 Euco QD



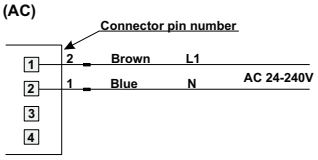
AC TYPE



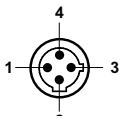
M12 Micro QD



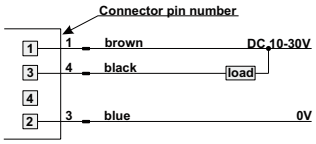
Emitter (AC)



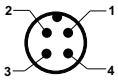
M12 Micro QD



NPN

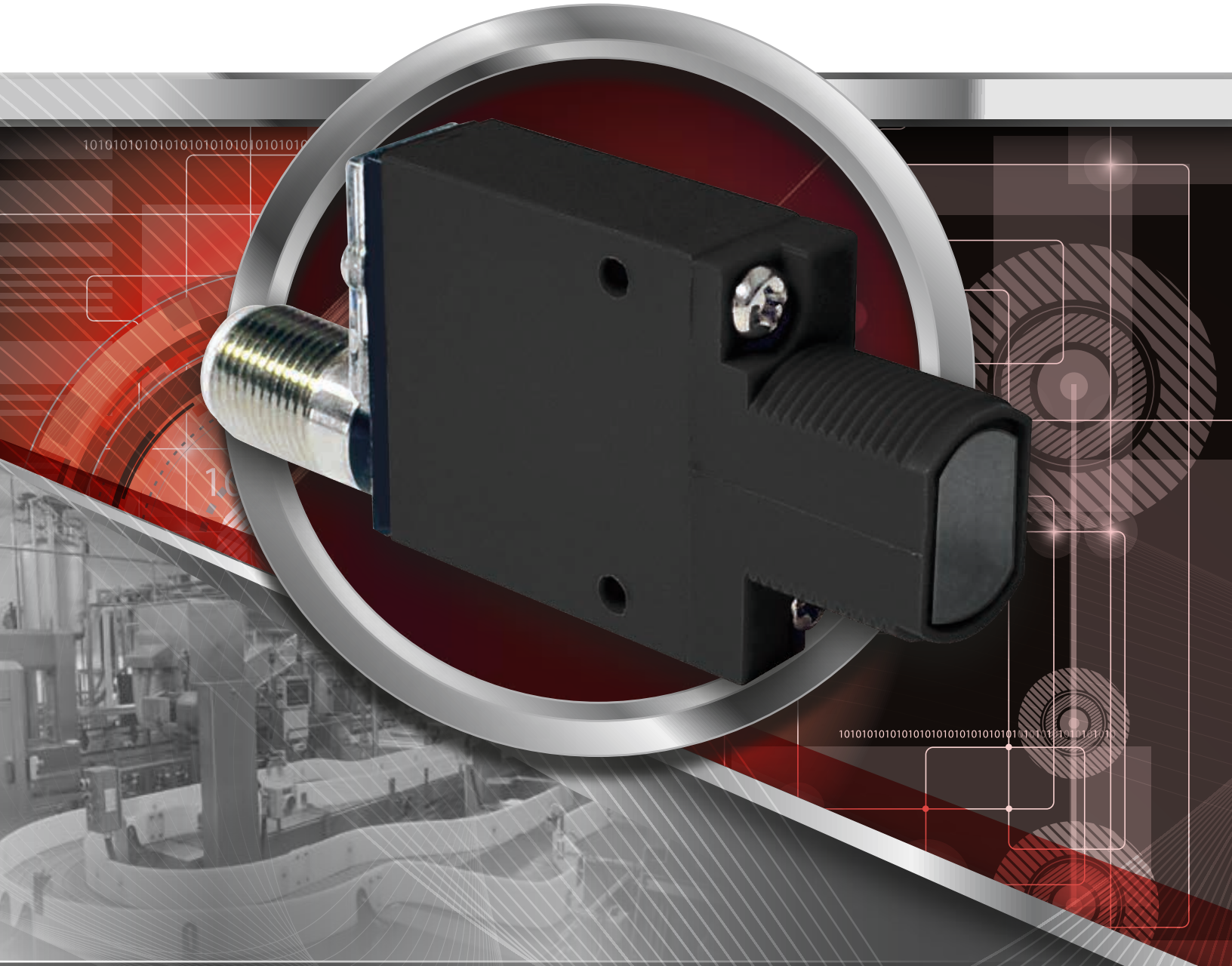


M12 Euco QD



LONG RANGE PHOTOELECTRIC SENSORS ARE IDEAL FOR SENSING OVER LONG DISTANCES, AND COME WITH A RUGGED HOUSING FOR A VARIETY OF APPLICATIONS.

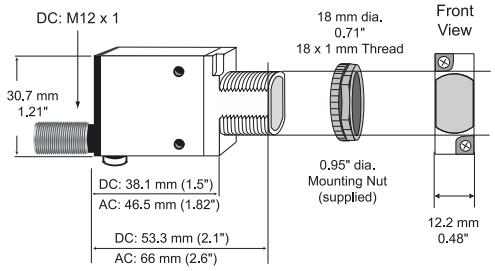
HTM™ SENSORS

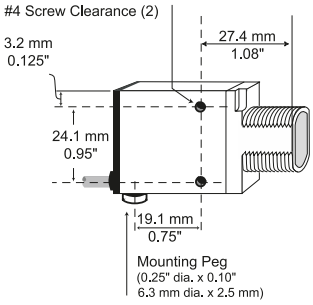


- MP SERIES PHOTOELECTRIC SENSORS FOR UNIVERSAL MOUNTING
- MOUNTS ON STANDARD OR FLAT BRACKET
- LONG RANGE - UP TO 30 m
- AVAILABLE IN DIFFUSE, RETROREFLECTIVE, THRU-BEAM, CONVERGENT AND FIBER OPTIC MODES
- COMPACT SIZE

	DIFFUSE	POLARIZED RETROREFLECTIVE	THRU-BEAM	CONVERGENT	FIBER OPTIC (THRU-BEAM)
SENSING DISTANCE	380 mm	2 m	30 m	43 mm	Depends on fiber used
LIGHT EMISSION	Infrared LED (880 nm)	RED LED (650 nm)	Infrared LED (880 nm)	RED LED (650 nm)	Infrared LED (880 nm)
POWER SUPPLY	10-30 V DC / 20-250 V AC Models				
CURRENT CONSUMPTION	DC Models - 25 mA Max. / AC Models - 25 mA Max (1.7 mA Max. for Emitter)				
OUTPUT CONFIGURATION	DC Models - Bipolar: One current sourcing (PNP) and one current sinking (NPN) open-collector transistor AC Models - SPST MOSFET solid-state relay with either N.O. or N.C. contact (light/dark operate selectable: 3-wire hook-up)				
MAX. CURRENT LOAD	DC Models - 150 mA / AC Models - 200 mA				
VOLTAGE DROP	DC Models - <2.0 V @ 150 mA / AC Models - <10 V @ 200 mA				
RESPONSE TIME	DC Models - 1 ms / AC Models - 8 ms (4 ms for Retroreflective Models)				
ADJUSTMENTS	LIGHT/DARK Operate sensitivity adjustment switch				
HOUSING MATERIAL	Reinforced thermoplastic polyester housing, totally encapsulated o-ring sealing, acrylic lenses and stainless steel screws				
ENVIRONMENT	-20 °C to +70 °C (-4 °F to 158 °F) ; Max. 90% RH @ 50 °C				
MECHANICAL PROTECTION	IP67 (IEC)				
CONNECTION	DC Models - M12 - Recomended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle) / AC Models - 2 m Cable				
REFERENCE STANDARD	IEC 60947-5-2				
DC Models - Quick Connect					
Emitter			MP-T030MD-EX9Q4LE		
NPN / PNP	MP-D0380D-CX9Q4UE	MP-L2000D-CX6Q4UE-PF	MP-T030MD-CX9Q4UE	MP-C0043D-CX6Q4UE	MP-TGFD-CX9Q4UE
AC Models - PreWired Cable					
Emitter			MP-T3000A-EX9C2L2		
SPST, Solid State	MP-D0380A-CX9C3U2	MP-L2000A-CX6C3U2-PF	MP-T3000A-CX9C3U2	MP-C0043A-CX6C3U2	MP-DGFA-CX9C3U2

NOTE: Specifications subject to change without notification.





THE MP SERIES IS A SIMPLE, VERSATILE AND ECONOMICAL PHOTOELECTRIC SENSOR WITH AN EASY M18 MOUNTING STYLE AND A VARIETY OF SENSING FUNCTIONS.

HTM SENSORS™

IO-Link

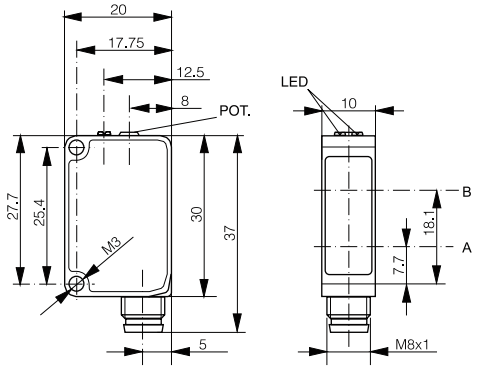
- MINIATURE HOUSING
- SENSITIVITY ADJUSTMENT VIA POTENTIOMETER
- IO-LINK FOR PROCESS OPTIMIZATION
- EXCELLENT BLACK/WHITE BEHAVIOR
- IMMUNITY TO MUTUAL INTERFERENCES

	THRU-BEAM	DIFFUSE	RETROREFLECTIVE	BACKGROUND SUPPRESSION	CLEAR OBJECT DETECTION
SENSING RANGE TYP. MAX.	30 m	1.5 m	8 m	300 mm	5 m
LIGHT SOURCE	N/A	Red LED 630 nm	Red LED 630 nm	PinPoint Red LED 640 nm	Red LED 630 nm
LIGHT SPOT SIZE (DISTANCE)	N/A	ø 15 mm @ 500 m / ø 26 mm @ 1 m	ø 30 mm @ 1 m / ø 140 mm @ 6 m	ø 6 mm @ 100 m / ø 10 mm @ 300 m	ø 40 mm @ 1 m
INDICATOR LED	Output: Yellow Excess Gain: Green	Output: Yellow Excess Gain: Green	Output: Yellow Excess Gain: Green	Output: Yellow Excess Gain: Green	Output: Yellow Excess Gain: Green
SUPPLY VOLTAGE RANGE (UB)	10-30 V DC				
IO-LINK	✓	✓	✓	✓	✓
SHORT CIRCUIT PROTECTION	✓	✓	✓	✓	✓
REVERSE POLARITY PROTECTION	✓	✓	✓	✓	✓
RESPONSE TIME[1]	<= 500 µs (normal) / <=1 ms / <= 250 µs	<= 340 µs (normal) / <=1 ms / <= 100 µs	<= 340 µs (normal) / <=1 ms / <= 100 µs	<= 500 µs (normal) / <=1 ms / <= 250 µs	<= 340 µs (normal) / <=1 ms / <= 100 µs
OUTPUT TYPE	PNP Complementary				
OPERATION MODE	Light On or Dark on Selectable wiring				
HOUSING MATERIAL	ABS				
LENS MATERIAL	PMMA				
IP RATING	IP67				
CABLE OR CONNECTOR	4-Pin M8 Male QD				
PART NUMBERS					
DC Emitter QD	H30-TTX-30000D-M8-3QD				
PNP	H30-TRX-30000P-M8-4QD	H30-DIF-1500P-M8-4QD	H30-RET-8000P-M8-4QD	H30-BGS-0300P-M8-4QD	H30-COD-5000P-M8-4QD
NPN	H30-TRX-30000N-M8-4QD	H30-DIF-1500N-M8-4QD	H30-RET-8000N-M8-4QD	H30-BGS-0300N-M8-4QD	H30-COD-5000N-M8-4QD
DC Emitter Pre-wired	H30-TTX-30000D-2M				
PNP Pre-wired	H30-TRX-30000P-2M	H30-DIF-1500P-2M	H30-RET-8000P-2M	H30-BGS-0300P-2M	H30-COD-5000P-2M
NPN Pre-wired	H30-TRX-30000N-2M	H30-DIF-1500N-2M	H30-RET-8000N-2M	H30-BGS-0300N-2M	H30-COD-5000N-2M

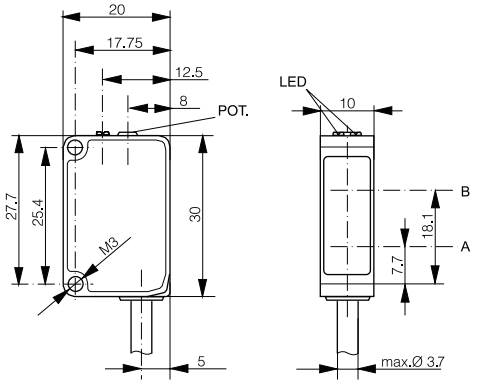
NOTE: Specifications subject to change without notification. [1]By default, "Normal" mode. "Fine" and "Fast" modes selectable via IO-Link.

IO-LINK FUNCTIONALITIES			
IO-Link version: 1.0	SIO mode: Supported	Process data: Detection state & stability alarm	Baudrate: COM2 (38.4 kBaud)
Special functions: Output configuration, output timing, sensor mode, detection counter, event flags, maximum and actual sensor temperature			

IO-Link

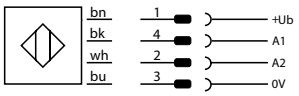


A: emitter axis B: receiver axis



A: emitter axis B: receiver axis

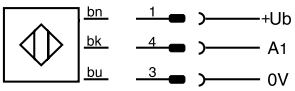
WIRING DIAGRAM - 4-PIN QD



PINS

M8

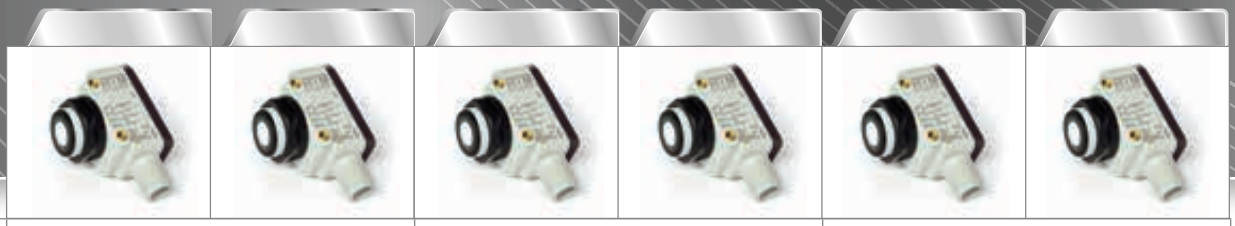
WIRING DIAGRAM - PRE-WIRED



PHOTOELECTRIC SENSORS WITH VISIBLE LED ENSURE RELIABLE AND EXTENDED SENSING RANGES FOR LIMITED SPACES, WITH IP67 ENCLOSURE RATING AND ARE ECOLAB-APPROVED FOR USE IN HYGIENIC AREAS. IO-LINK COMMUNICATION FOR PROCESS OPTIMIZATION.

HTM™ SENSORS

- ULTRASONIC SENSORS TO DETECT CLEAR OR SHINY OBJECTS, WOOD, PLASTICS AND IRREGULARLY SHAPED TARGETS
- MODELS WITH DIGITAL AND ANALOG OUTPUT AND MODELS WITH I/O LINK
- TEACH-IN PUSH BUTTON OR REMOTE INPUT FOR DISTANCE RANGE SETTING
- IDEAL FOR PACKAGING AND BOTTLING MACHINES AND AUTOMOTIVE ASSEMBLY LINES
- COMPLETE PROTECTION AGAINST ELECTRICAL DAMAGES
- IP67 (EN 60529) RATED



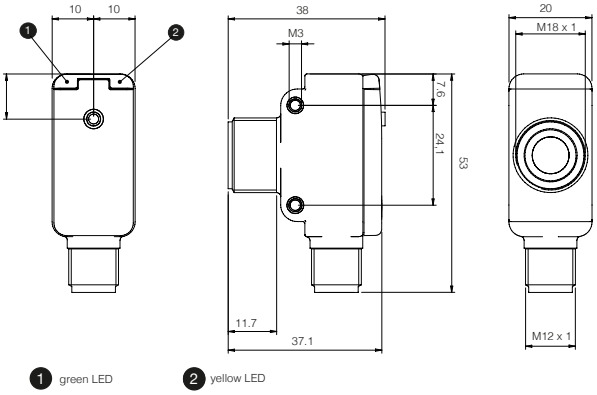
SENSING RANGE	40…300 mm (1)		60…800 mm (2)		80…1,200 mm (2)	
HOUSING TYPE	M18 Right Angle					
SWITCHING FREQUENCY	8 Hz		5 Hz		3 Hz	
HYSTERESIS	1%					
REPEATIBILITY	1%					
LINEARITY ERROR	< 1 %					
TEMPERATURE RANGE	- 20 °C..+70 °C					
TEMPERATURE DRIFT OF SR	± 5%					
OPERATING VOLTAGE	10…30 V DC					
MAX. RIPPLE CONTENT	5%					
LEAKAGE CURRENT	≤ 10 µA @ 30 Vcc					
OUTPUT VOLTAGE DROP	≤ 2.2 V (@ IL = 100 mA)					
NO-LOAD SUPPLY CURRENT	≤ 35 mA					
OUPUT CURRENT (DIGITAL OUTPUT)	100 mA					
RESPONSE TIME ANALOGUE OUTPUT	≤ 400 ms					
POWER ON DELAY (DIGITAL OUTPUT)	≤ 400 ms					
SHORT-CIRCUIT PROTECTION	(autoreset)					
EMC	Conforming to EMC Directive, according to EN 60947-5-2					
WEIGHT	30 g					
LEDS	Green: Echo - Yellow: Output					
PROTECTION DEGREE	IP67 (EN 60529)					
HOUSING MATERIAL	PBT or PA12					
ACTIVE HEAD MATERIAL	Epoxy Glass Resin					
STORAGE TEMPERATURE	- 30 °C...+ 80 °C					
PART NUMBERS						
Digital PNP and Analog 4-20 mA	M18U-DR0300PC-4Q		M18U-DR0800PC-4Q		M18U-DR1200PC-4Q	
Single PNP (I/O Link)		M18U-DR0300PIO-4Q		M18U-DR0800PIO-4Q		M18U-DR1200PIO-4Q

(1) Metallic target 100 x 100 mm (2) Metallic target 200 x 200

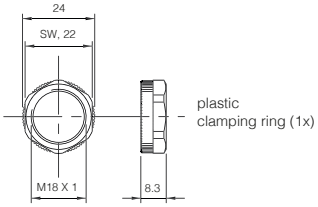
NPN available for Digital and Analog versions. Change 'P' to 'N' in part number.

NOTE: Specifications subject to change without notification.

DIMENSIONS

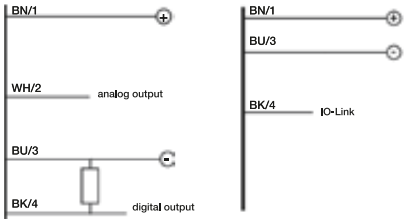


INCLUDED ACCESSORIES



M12 CONNECTOR

PNP NO/NC MODELS AND ANALOG OUTPUT



THE M18U SERIES IS THE BEST CHOICE FOR SENSING APPLICATIONS THAT NEED MORE RANGE THAN A CAPACITIVE SENSOR, AND ARE DIFFICULT TO DETECT WITH A PHOTOELECTRIC SUCH AS CLEAR OR SHINY OBJECTS, WOOD, PLASTICS, AND IRREGULARLY SHAPED TARGETS.

HTM™ SENSORS

HAND PROTECTION
30 mm / 1/18 in. RESOLUTION

- CATEGORY 4 SAFETY LIGHT CURTAINS
- RUGGED C-CHANNEL ALUMINUM HOUSING WITH ROTATING BRACKETS
- AVAILABLE FROM 6” TO 70” PROTECTIVE HEIGHT
- FAST RESPONSE TIMES, AND LONG 19 m OPERATING DISTANCE
- AVAILABLE WITH MIRRORS, AND IP69 ENCLOSURES
- DIGITAL DISPLAY FOR DIAGNOSTICS AND EASY ALIGNMENT

CV-A1-20-B03 / B10

CABLES (3 m / 10 m)

CSME-03VU24-Y14

RELAY

HSC4-30

LIGHT CURTAINS

MODEL	BEAMS	RESPONSE TIME	PROTECTIVE HEIGHT	TOTAL HEIGHT
HSC4-30-06	8	9 ms	150 mm (5.91 in.)	233.3 mm
HSC4-30-12	16	11 ms	300 mm (11.81 in.)	383.2 mm
HSC4-30-18	24	13 ms	450 mm (17.72 in.)	533.2 mm
HSC4-30-24	32	15 ms	600 mm (23.62 in.)	683.2 mm
HSC4-30-30	40	16 ms	750 mm (29.53 in.)	833.2 mm
HSC4-30-36	48	18 ms	900 mm (35.43 in.)	983.2 mm
HSC4-30-42	56	19 ms	1050 mm (41.34 in.)	1133.2 mm
HSC4-30-48	64	21 ms	1200 mm (47.24 in.)	1283.3 mm
HSC4-30-54	72	23 ms	1350 mm (53.15 in.)	1433.2 mm
HSC4-30-60	80	25 ms	1500 mm (59.06 in.)	1583.3 mm
HSC4-30-65	88	26 ms	1650 mm (64.96 in.)	1733.3 mm
HSC4-30-70	96	28 ms	1800 mm (70.87 in.)	1883.3 mm

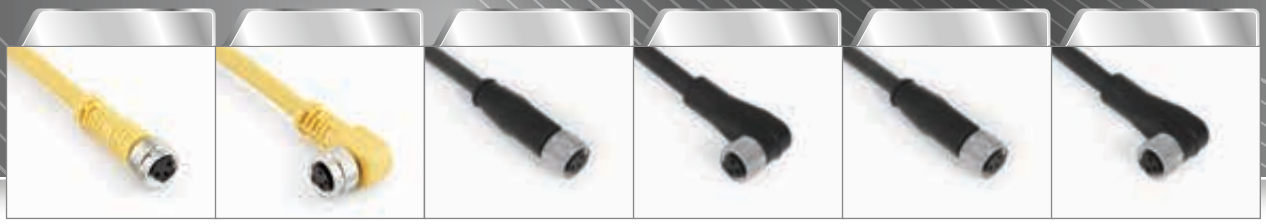
NOTE: Specifications subject to change without notification.

CATEGORY 4 SAFETY LIGHT CURTAINS ARE IDEAL FOR PROTECTING PEOPLE FROM DANGEROUS MACHINERY WHERE HARD GUARDS ARE NOT PRACTICAL.

HTM™ SENSORS

- QUICK-CONNECT SENSOR CABLES FOR SENSOR CONNECTIONS
- LOW PRICES WITH THOUSANDS IN STOCK FOR SAME-DAY SHIPPING
- AVAILABLE IN LOW-COST PVC, OIL-RESISTANT PUR, AND SPATTER RESISTANT TPE
- AVAILABLE IN YELLOW, BLACK OR GREY OR CUSTOM COLORS
- AVAILABLE IN STANDARD 5 m LENGTH, OR ANY CUSTOM LENGTH
- ANY STYLE AVAILABLE WITH PRE-INSTALLED PROTECTIVE SILICONE JACKET

QUICK-CONNECT SENSOR CABLES - M8 SPECIFICATIONS



CONNECTION	M8 PVC		M8 PUR		M8 TPE	
CONNECTOR	Female Straight	Female Angled	Female Straight	Female Angled	Female Straight	Female Angled
CABLE MATERIAL	Low-Cost PVC		Oil-Resistant PUR		Weld Spatter Resistant TPE	
WIRE GAUGE	22 AWG					
THREADED CONNECTOR	Nickel-plated Brass					
NOMINAL VOLTAGE	250 VAC/300 VDC (10-30 VDC LED models)					
PROTECTION	IP67					
PART NUMBERS						
3-pin / 3-wire	C-FS3TZ-V075	C-FA3TZ-V075	C-FS3TZ-P665	C-FA3TZ-P665	C-FS3TZ-T665	C-FA3TZ-T665
3-pin / 3-wire - PNP LED		C-FA3TP-V075				C-FA3TP-T665
3-pin / 3-wire - NPN LED		C-FA3TN-V075				C-FA3TN-T665
4-pin / 4-wire	C-FS4TZ-V075	C-FA4TZ-V075	C-FS4TZ-P665	C-FA4TZ-P665	C-FS4TZ-T665	C-FA4TZ-T665

For Food Grade Stainless Steel Nuts	Add -SS on the end of the part #
For Weld Grade PTFE Coated Nuts	Add -PTFE on the end of the part #
For 18AWG wires	Add -18AWG on the end of the part #
For Factory Pre-Installed Silicone Sleeve	Add - S on the end of the part #
For custom lengths	Change "5" on the end of the part # to the desired length in meters
For male connectors	Change "F" in the part # to "M"
For custom colors	For PVC Cable, add - Black, -Grey, -Yellow, or -Orange to the end of the part #

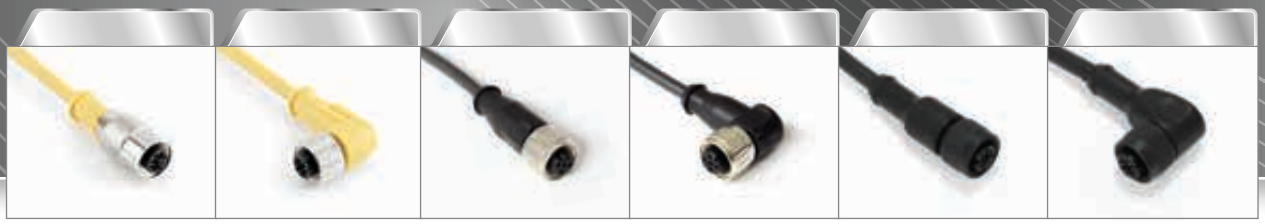
NOTE: Specifications subject to change without notification.

QUICK-CONNECT SENSOR CABLES HAVE A LOW PRICE, AND THOUSANDS IN STOCK FOR SAME DAY SHIPPING.

HTM™ SENSORS

- QUICK-CONNECT SENSOR CABLES FOR SENSOR CONNECTIONS
- LOW PRICES WITH THOUSANDS IN STOCK FOR SAME-DAY SHIPPING
- AVAILABLE IN LOW-COST PVC, OIL-RESISTANT PUR, AND SPATTER-RESISTANT TPE
- AVAILABLE IN YELLOW, BLACK OR GREY OR CUSTOM COLORS
- AVAILABLE IN STANDARD 5 m LENGTH, OR ANY CUSTOM LENGTH
- ANY STYLE AVAILABLE WITH PRE-INSTALLED PROTECTIVE SILICONE JACKET

QUICK-CONNECT SENSOR CABLES - M12 SPECIFICATIONS



CONNECTION	M12 PVC		M12 PUR		M12 TPE	
CONNECTOR	Female Straight	Female Angled	Female Straight	Female Angled	Female Straight	Female Angled
CABLE MATERIAL	Low-Cost PVC		Oil-Resistant PUR		Weld Spatter Resistant TPE	
WIRE GAUGE	22 AWG					
THREADED CONNECTOR	Nickel-plated Brass				PTFE Coated Brass	
NOMINAL VOLTAGE	250 V AC/300 V DC (10-30 V DC LED models)					
PROTECTION	IP68					
PART NUMBERS						
4-pin / 4-wire	R-FS4TZ-V075	R-FA4TZ-V075	R-FS4TZ-P665	R-FA4TZ-P665	R-FS4TZ-T665	R-FA4TZ-T665
4-pin / 3-wire - PNP LED	R-FS4/3TP-V075	R-FA4/3TP-V075				
4-pin / 3-wire - NPN LED	R-FS4/3TN-V075	R-FA4/3TN-V075				
5-pin / 5-wire	R-FS5TZ-V075	R-FA5TZ-V075	R-FS5TZ-Y075	R-FA5TZ-Y075		
8-pin / 8-wire	R-FS8TZ-V075	R-FA8TZ-V075	R-FS8TZ-Y095	R-FA8TZ-Y095		

For Food Grade Stainless Steel Nuts	Add -SS on the end of the part #
For Weld Grade PTFE Coated Nuts	Add -PTFE on the end of the part #
For 18AWG wires	Add -18AWG on the end of the part #
For Factory Pre-Installed Silicone Sleeve	Add - S on the end of the part #
For custom lengths	Change "5" on the end of the part # to the desired length in meters
For male connectors	Change "F" in the part # to "M"
For custom colors	For PVC Cables, add - Black, -Grey, -Yellow, or -Orange to the end of the part #

NOTE: Specifications subject to change without notification.

QUICK-CONNECT SENSOR CABLES HAVE A LOW PRICE, AND THOUSANDS IN STOCK FOR SAME DAY SHIPPING.

HTM™ SENSORS

- FACTORY PRE-INSTALLED SILICONE CABLES FOR DURABILITY
- SILICONE JACKET TO PROTECT FROM HEAT, CUTS AND SPATTER
- LED'S ON THE END FOR FAST AND EASY TROUBLESHOOTING
- PTFE COATED NUTS FOR SPATTER RESISTANCE
- INSIDE CABLE IS MADE OF TPE FOR EXTENDED DURABILITY
- IDEAL FOR USE IN WELD CELLS WHERE CABLES CAN GET DAMAGED

FACTORY PRE-INSTALLED SILICONE CABLES SPECIFICATIONS

DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	SPLITTER

	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Splitter Cable
MALE CONNECTOR	Straight	Straight	Angled	Angled	Straight
FEMALE CONNECTOR	Straight	Angled	Straight	Angled	Straight
CABLE MATERIAL	TPE	TPE	TPE	TPE	TPE
PROTECTIVE CABLE JACKET	Silicone Tube	Silicone Tube	Silicone Tube	Silicone Tube	Silicone Tube
LOCKING NUTS	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated
LED ON FEMALE END	Power and Output	Power and Output	Power and Output	Power and Output	
PART NUMBERS					
M12, 4-pin - 0.6 m PNP	R-MS4TZ-T070.6+ R-FS4/3TP-T070.6-S	R-MS4TZ-T070.6+ R-FA4/3TP-T070.6-S	R-MA4TZ-T070.6+ R-FS4/3TP-T070.6-S	R-MA4TZ-T070.6+ R-FA4/3TP-T070.6-S	
M12, 4-pin - 0.6 m no LED	R-MS4TZ-T070.6+ R-FS4TZ-T070.6-S	R-MS4TZ-T070.6+ R-FA4/3TZ-T070.6-S	R-MA4TZ-T070.6+ R-FS4/3TZ-T070.6-S	R-MA4TZ-T070.6+ R-FA4/3TZ-T070.6-S	U2-R4R-FS4KZ-T070.6-S
M12, 4-pin- 2.0 m PNP	R-MS4TZ-T072+ R-FS4/3TP-T072-S	R-MS4TZ-T072+ R-FA4/3TP-T072-S	R-MA4TZ-T072+ R-FS4/3TP-T072-S	R-MA4TZ-T072+ R-FA4/3TP-T072-S	
M12, 4-pin - 2.0 m no LED	R-MS4TZ-T072+ R-FS4TZ-T072-S	R-MS4TZ-T072+ R-FA4TZ-T072-S	R-MA4TZ-T0702+ R-FS4TZ-T072-S	R-MA4TZ-T0702+ R-FA4TZ-T072-S	U2-R4R-FS4KZ-T072-S

NPN is available, change "P" to "N" in part number.

Custom lengths and connector styles are available.

M8 connectors are available on either or both ends.

NOTE: Specifications subject to change without notification.

FACTORY PRE-INSTALLED SILICONE CABLES ARE THE BEST CHOICE FOR EXTRA DURABILITY IN WELD CELLS WHERE CABLES ARE EXPOSED TO HIGH HEAT, WELD SPATTER, AND SHARP TOOLS OR PARTS.

HTM™ SENSORS

- HIGH PERFORMANCE TPE CABLES FOR AUTOMOTIVE APPLICATIONS
- 10 MILLION FLEX RATING FOR LONG-LASTING PERFORMANCE
- ANTI-VIBRATION NUTS FOR RELIABLE CONNECTION
- PTFE COATED NUTS FOR SPATTER RESISTANCE
- SINGLE-ENDED, DOUBLE-ENDED AND SPLITTER VERSIONS AVAILABLE
- IDEAL FOR USE IN WELD CELLS WHERE CABLES CAN GET DAMAGED

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DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	SPLITTER

	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Splitter Cable
MALE CONNECTOR	Straight	Straight	Angled	Angled	Straight
FEMALE CONNECTOR	Straight	Angled	Straight	Angled	Straight
CABLE MATERIAL	TPE	TPE	TPE	TPE	TPE
FLEX RATING	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G
ANTI-VIBRATION NUTS	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated
PART NUMBERS					
M12, 4-pin - 0.6 m	R-MS4TZ-T660.6+ R-FS4TZ-T660.6	R-MS4TZ-T660.6+ R-FA4TZ-T660.6	R-MA4TZ-T660.6+ R-FS4TZ-T660.6	R-MA4TZ-T660.6+ R-FA4TZ-T660.6	U2-R4R-FS4KZ-T660.6
M12, 4-pin - 2.0 m	R-MS4TZ-T662+ R-FS4TZ-T662	R-MS4TZ-T662+ R-FA4TZ-T662	R-MA4TZ-T662+ R-FS4TZ-T662	R-MA4TZ-T662+ R-FA4TZ-T662	U2-R4R-FS4KZ-T662
Custom lengths and connector styles are available					
M8 connectors are available on either or both ends					

NOTE: Specifications subject to change without notification.

HIGH PERFORMANCE TPE AUTOMOTIVE CABLES ARE THE BEST CHOICE FOR EXTRA DURABILITY IN WELD CELLS WHERE CABLES ARE EXPOSED TO HIGH HEAT, WELD SPATTER AND SHARP TOOLS OR PARTS.

HIGH PERFORMANCE, SILICONE PROTECTED TPE AUTOMOTIVE CABLES

HTM™ SENSORS

- HIGH PERFORMANCE TPE CABLES FOR AUTOMOTIVE APPLICATIONS
- 10 MILLION FLEX RATING FOR LONG-LASTING PERFORMANCE
- ANTI-VIBRATION NUTS FOR RELIABLE CONNECTION
- SILICONE PROTECTED WITH PTFE COATED NUTS FOR SPATTER RESISTANCE
- SINGLE-ENDED, DOUBLE-ENDED AND SPLITTER VERSIONS AVAILABLE
- IDEAL FOR USE IN WELD CELLS WHERE CABLES CAN GET DAMAGED

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DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	DOUBLE-ENDED	SPLITTER

	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Double-Ended Cable	Splitter Cable
MALE CONNECTOR	Straight	Straight	Angled	Angled	Straight
FEMALE CONNECTOR	Straight	Angled	Straight	Angled	Straight
CABLE MATERIAL	TPE - Silicone Protected	TPE - Silicone Protected	TPE - Silicone Protected	TPE - Silicone Protected	TPE - Silicone Protected
FLEX RATING	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G	10 Million Cycles per Mil-C-13777G
ANTI-VIBRATION NUTS	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated	PTFE Coated
PART NUMBERS					
M12, 4-pin - 0.6 m	R-MS4TZ-T660.6+ R-FS4TZ-T660.6-S	R-MS4TZ-T660.6+ R-FA4TZ-T660.6-S	R-MA4TZ-T660.6+ R-FS4TZ-T660.6-S	R-MA4TZ-T660.6+ R-FA4TZ-T660.6-S	U2-R4R-FS4KZ-T660.6-S
M12, 4-pin - 2.0 m	R-MS4TZ-T662+ R-FS4TZ-T662-S	R-MS4TZ-T662+ R-FA4TZ-T662-S	R-MA4TZ-T662+ R-FS4TZ-T662-S	R-MA4TZ-T662+ R-FA4TZ-T662-S	U2-R4R-FS4KZ-T662-S
Custom lengths and connector styles are available					
M8 connectors are available on either or both ends					

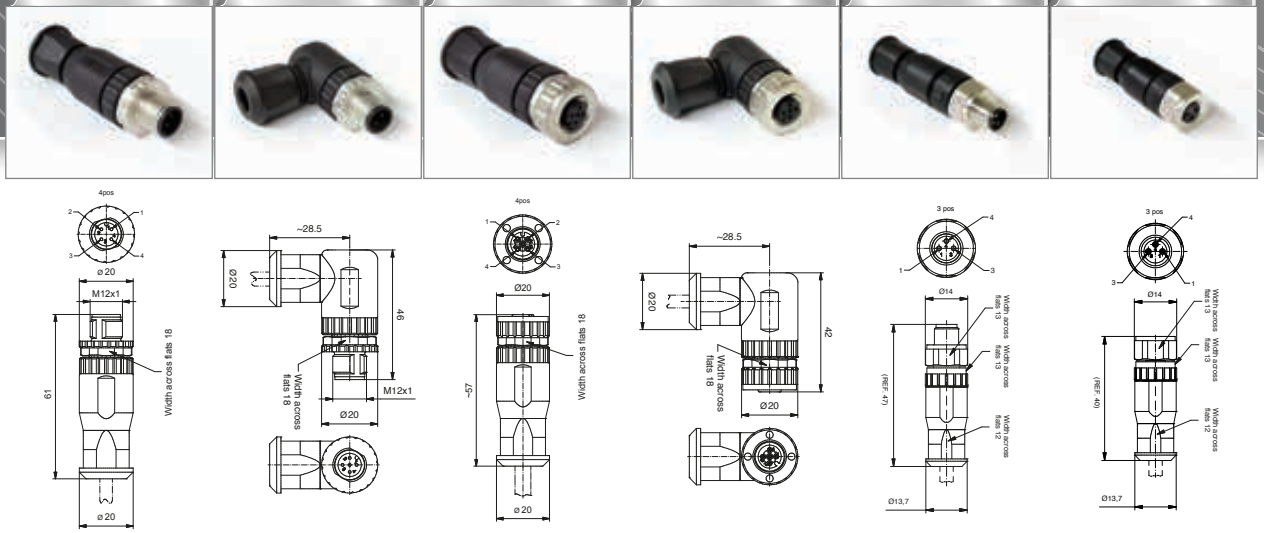
NOTE: Specifications subject to change without notification.

HIGH PERFORMANCE, SILICONE PROTECTED TPE AUTOMOTIVE CABLES ARE THE BEST CHOICE FOR EXTRA DURABILITY IN WELD CELLS WHERE CABLES ARE EXPOSED TO HIGH HEAT, WELD SPATTER AND SHARP TOOLS OR PARTS.

HTM™ SENSORS

- FIELD CONNECTORS FOR QUICK CABLE REPAIRS AND CONNECTIONS
- LOW PRICES WITH THOUSANDS IN STOCK FOR SAME-DAY SHIPPING
- METAL SCREW TERMINALS FOR A TIGHT CONNECTION
- AVAILABLE IN M12, M8 AND MINI SIZES
- PERFECT SOLUTION TO MATE CABLES TO DISTRIBUTION BLOCKS
- COMPATIBLE WITH DEVICENET BLOCK CONNECTIONS

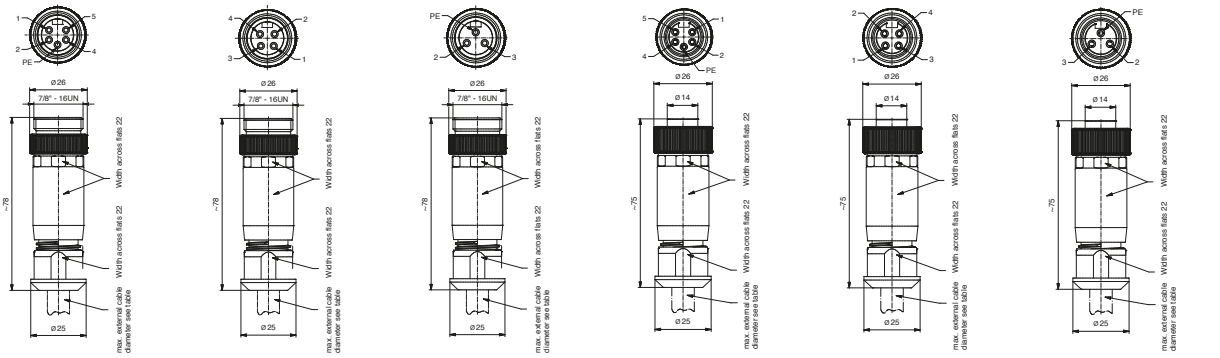
M12 MALE STRAIGHT	M12 MALE ANGLED	M12 FEMALE STRAIGHT	M12 FEMALE ANGLED	M8 MALE STRAIGHT	M8 FEMALE STRAIGHT



PROTECTION	IP67					
CONNECTION MODE	Screw Clamps					
PART NUMBERS						
M12 Micro - 4-Pin *	FC-12MS4P-PG7/9	FC-12MA4P-PG7/9	FC-12FS4P-PG7/9	FC-12FA4P-PG7/9		
M8 Pico - 3-Pin					FC-08MS3P-PG7	FC-08FS3P-PG7
M8 Pico - 4-Pin					FC-08MS4P-PG7	FC-08FS4P-PG7

* M12 Micro - 4-Pin connectors can be utilized in PG7 and PG9 applications. Stock one part for both sizes.

7/8” MALE 5-PIN	7/8” MALE 4-PIN	7/8” MALE 3-PIN	7/8” FEMALE 5-PIN	7/8” FEMALE 4-PIN	7/8” FEMALE 3-PIN



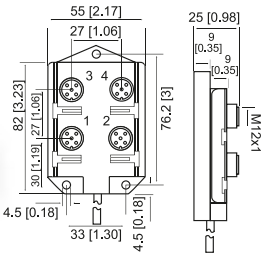
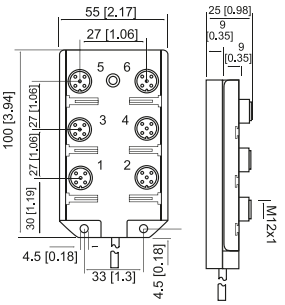
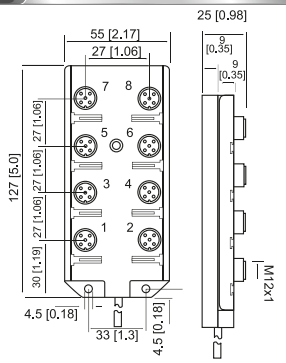
PROTECTION	IP67					
CONNECTION MODE	Screw Clamps					
PART NUMBERS						
7/8” Mini Field Connectors	FC-78MS5P-PG9	FC-78MS4P-PG9	FC-78MS3P-PG9	FC-78FS5P-PG9	FC-78FS4P-PG9	FC-78FS3P-PG9

* 7/8” Mini connectors can be utilized in PG9, PG11 and PG13.5 applications. Stock one part for all sizes.

FIELD CONNECTORS ARE A QUICK AND INEXPENSIVE SOLUTION TO FIELD REPAIRS OF CABLES AND CONNECTIONS TO DISTRIBUTION BLOCKS.

HTM™ SENSORS

- DISTRIBUTION BLOCKS TO SIMPLIFY THE WIRING OF MACHINES
- AVAILABLE IN 4-PORT, 6-PORT, OR 8-PORT SIZES
- AVAILABLE WITH 7/8-16 OR M23 CONNECTOR
- AVAILABLE IN TOP PORTS OR SIDE PORTS
- AVAILABLE WITH NPN OR PNP LED'S
- FITS M12 FIELD CONNECTORS OR DOUBLE ENDED CABLE CONNECTIONS

4 PORTS	6 PORTS	8 PORTS
		

APPLICATION CLASS	-15 ºC to +90 ºC		
MATERIALS			
HOUSING	Nylon		
CONTACT	Brass, Gold over Nickel Plating		
RECEPTACLE SHELL	Brass, Nickel Plating		
INSERT	PUR		
O-RING	Viton		
CABLE JACKET	PUR		
ELECTRICAL DATA			
CONTACT RESISTANCE	≤5 mΩ		
CURRENT RATING	4 Amps per outlet, Max. 12 Amps per box		
WORKING VOLTAGE	10-30 VDC		
INSULATION RESISTANCE	>109 Ω		
MECHANICAL DATA			
CONTACT	≤2.0 N (0.45 lbs)		
WITHDRAWAL FORCE			
CONTACT	≥0.5 N (0.11 lbs)		
PROTECTION	IP68, NEMA 6P (in fully locked position)		
SHOCK	IEC-68-2-27		
VIBRATION	IEC-68-2-6		
CE CONFORMITY	EN50082-1, EN50082-2, IEC60947-5-2		
PART NUMBERS			
Without LEDs	ASTR4-5/4UZ-3005	DSTR6-5/4UZ-3305	DSTR8-5/4UZ-3205
NPN with LEDs - N.O.	ASTR4-5/4NA-3005	DSTR6-5/4NA-3305	DSTR8-5/4NA-3205
PNP with LEDs - N.O.	ASTR4-5/4PA-3005	DSTR6-5/4PA-3305	DSTR8-5/4PA-3205
PNP Dual input (2 LEDs)	ALTR4-5/5DC-3605	DLTR6-5/5DC-3405	DLTR8-5/5DC-3805
NPN Dual input (2 LEDs)	ALTR4-5/5EC-3605	DLTR6-5/5EC-3405	DLTR8-5/5EC-3805

Part numbers provided are for 5m cabled versions, other lengths available upon request.

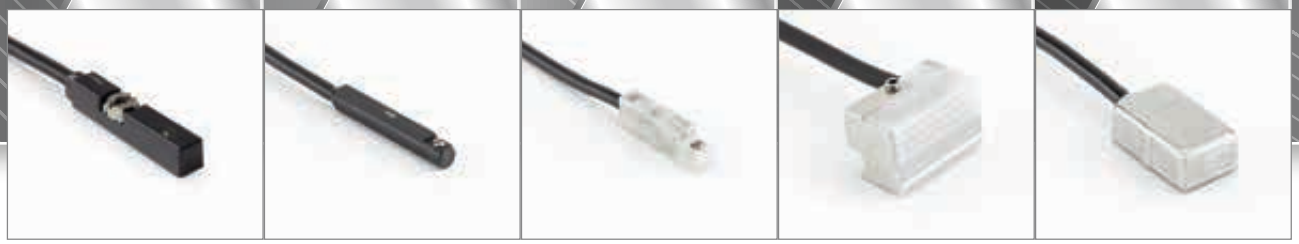
NOTE: Specifications subject to change without notification.

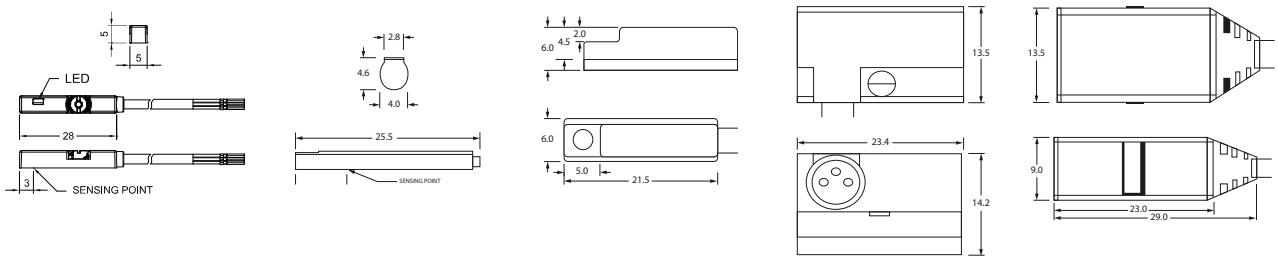
SENSOR CONNECTION DISTRIBUTION BLOCKS ARE THE IDEAL SOLUTION TO REDUCE AND SIMPLIFY THE WIRING OF MACHINES FOR QUICK CHANGES AND REPLACEMENTS.

HTM™ SENSORS

- PNEUMATIC CYLINDER SENSORS FOR THE RELIABLE CONTROL OF PNEUMATIC ACTUATORS
- SLIM FIT PLASTIC HOUSINGS FOR EASY MOUNTING, OR RUGGED METAL HOUSINGS FOR TOUGH APPLICATIONS
- MOUNTING FOR POPULAR ACTUATOR PROFILES INCLUDING T-SLOT, C-SLOT, DOVETAIL AND TUBULAR
- DROP-IN REPLACEMENTS FOR POPULAR FESTO® STYLE, SMC® STYLE, NUMATICS® STYLE AND CANFIELD® STYLE
- AVAILABLE WITH M8 OR M12 PIGTAIL CONNECTORS, OR WITH PRE-WIRED CABLES
- AVAILABLE WITH PNP, NPN OR REED OUTPUT

T-SLOT	C-SLOT	MINI DOVETAIL	DOVETAIL	TIE-ROD





DIMENSIONS (mm)	5 W x 5 H x 28 L	4 W x 4.6 H x 25.5 L	6 W x 6 H x 21.5 L	11 W x 14 H x 23.4 L	13.5 W x 9 H x 23 L
SWITCHING VOLTAGE - PNP/NPN	10-28 V DC	5-28 V DC	5-28 V DC	5-28 V DC	6-24 V DC
SWITCHING VOLTAGE - REED	10-28 V DC	5-120 V AC/DC	5-120 V AC/DC	5-120 V AC/DC	5-120 V AC/DC
CONNECTION	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL
CONNECTOR	M8 3-PIN CONNECTOR	M8 3-PIN CONNECTOR	M8 3-PIN CONNECTOR	M8 3-PIN CONNECTOR	M8 3-PIN CONNECTOR
PART NUMBERS					
PNP VERSION - Open	PCDS-09/25P-A3U0.3/P8	PCSC-04/25P-A3U0.3/P8	PCSD-06/21P-A3U0.3/P8	PSCH-11/23P-A3U0.3/P8	PSCR-13/23P-A3U0.3/P8
NPN VERSION - Open	PCDS-09/25N-A3U0.3/P8	PCSC-04/25N-A3U0.3/P8	PCSD-06/21N-A3U0.3/P8	PSCH-11/23N-A3U0.3/P8	PSCR-13/23N-A3U0.3/P8
REED VERSION - Open	PCDS-09/25R-A3U0.3/P8	PCSC-04/25R-A3U0.3/P8	PCSD-06/21R-A3U0.3/P8	PSCH-11/23R-A3U0.3/P8	PSCR-13/23R-A3U0.3/P8
MATING CABLE	C-FS3TZ-V075	C-FS3TZ-V075	C-FS3TZ-V075	C-FS3TZ-V075	C-FS3TZ-V075

NOTE: Specifications subject to change without notification.

HTM PNEUMATIC CYLINDER SENSORS ARE THE BEST CHOICE FOR THE MOTION CONTROL OF PNEUMATIC ACTUATORS FOR LINEAR, ROTARY OR GRIPPER CONTROL, WHERE A RELIABLE AND INEXPENSIVE SENSOR IS REQUIRED.

HTM™ SENSORS

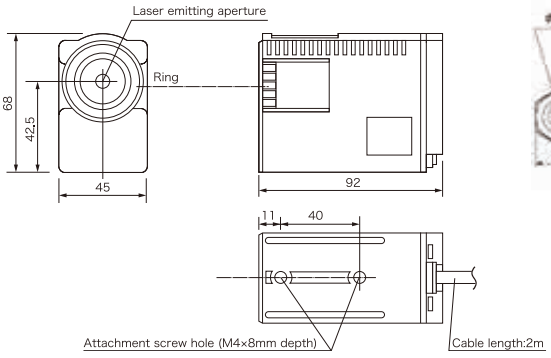
➢ NON-CONTACT TEMPERATURE SENSORS FOR RELIABLE PROCESS CONTROL

M18 THERMO	NON-CONTACT THERMO	SENSOR HEAD/AMPLIFIER

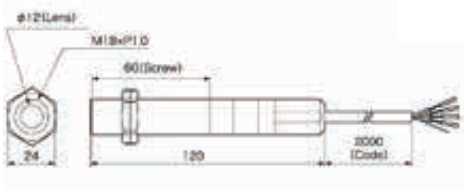
MODEL	SA-80T-2A	SA-80T-4A	BA-06TA BA-30TA	BA-06TC BA-30TC	BA-06TV BA-30TV	BS-30T BS-A	BS-05T BS-A	BS-02T BS-V
ANALOG/RELAY OUTPUT	4-20mA		4-20 mA	350 mA-DC 100 V Max.	1 mV/°C	4 to 20 mA		1 mV/°C
OUTPUT RENEWAL / RESOLUTION			0.2 °C	50 msec.	0.2 °C	0.2°C		
FIELD OF VIEW	ø80/500 mm		BA-06T*: ø6 mm/200 mm BA-30T*: ø30 mm/1000 mm			ø30 mm/ 500 mm	ø5 mm/ 100 mm	ø2 mm/ 50 mm
MEASURING RANGE	0 to 200 °C	0 to 400 °C	0 to 500 °C			0 to 500°C (32 to 932°F) (Display: –20 to 520°C (–4 to 968°F))		
DISPLAY RANGE			-20 to 520 °C			-20 to 520 °C		
OPTICS	Silicon Lens		Silicon Lens			Silicon Lens		
SENSING ELEMENT/WAVELENGTH	Thermopile / 8~14 µm		Thermopile / 8 ~ 14 µm			Thermopile / 8 ~ 14 µm		
RESPONSE TIME	100 ms/90%		100 ms/90%			0.5 sec./90%		
ACCURACY	0~200 °C: ± 2 °C, 201~400 °C: ± 1%		± 1% of reading value or ± 2 °C ± 1 digit, whichever is greater (ε≈1.0)			± 1% of reading value or ± 2 °C ± 1 digit, whichever is greater (ε≈1.0)		
REPEATABILITY	± 1 °C of reading value		± 1 °C of reading value			± 1 °C of reading value		
DISPLAY RESOLUTION	1 °C		1 °C			1 °C		
SIGHTING METHOD			Coaxial laser marker (Class 2)			Coaxial laser marker (Class 2)		
EMISSIVITY RATIO (ε) ADJUSTMENT	0.95		0.10 - 1.20 (0.01/1 step)			0.10 - 1.20 (0.01/1 step)		
DELAY FUNCTION			1 (0.5 sec.) - 200 (approx. 10 sec.)			1 (0.5 sec.) - 200 (approx. 10 sec.)		
CURRENT CONSUMPTION	12 - 24 V DC ± 10%, 70 mA max.		12 - 24 V DC ± 10%, 150 mA max.			12 - 24 V DC ± 10%, 70 mA max.		
AMBIENT TEMPERATURE	0 to 70 °C		0 to 50 °C			0 to 65 °C With air purge/water-cooling jacket installed: Air-cooled: 0 to 80 °C Water-cooled: 0 to 150 °C		0 to 50 °C
						0 to 50°C		
ENVIRONMENTAL HUMIDITY	35 - 85% RH (without dew condensation)		35 - 85% RH (without dew condensation)			35 - 85% RH (without dew condensation)		
STORAGE TEMPERATURE	-20 to 70 °C		-10 to 60 °C			-20 to 70 °C		
VIBRATION RESISTANCE	10-55 Hz, amplitude 1.5 mm, two hours each in direction X,Y, Z		3G (20 to 50 Hz, according to JIS C0911)			3G (20 to 50 Hz, according to IEC 60068-2-6)		
WATER RESISTANCE	IP67		IP65			IP67		
						IP65		

NOTE: Specifications subject to change without notification.

BA-06 / BA-30****

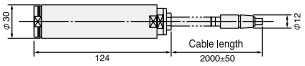


SA-80T-2A / SA-80T-4A

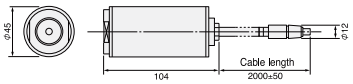


• **Sensor Head**

BS-30T/BS-05T

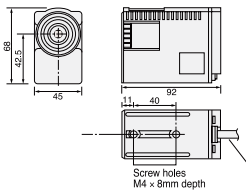


BS-02T

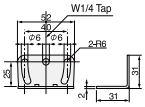


• **Amplifier**

BS-A/BS-V



Amplifier Fixture



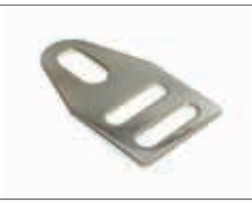
[mm]

NON-CONTACT TEMPERATURE SENSORS ARE THE PERFECT CHOICE FOR IN-PROCESS TEMPERATURE MEASUREMENT AND CONTROL.

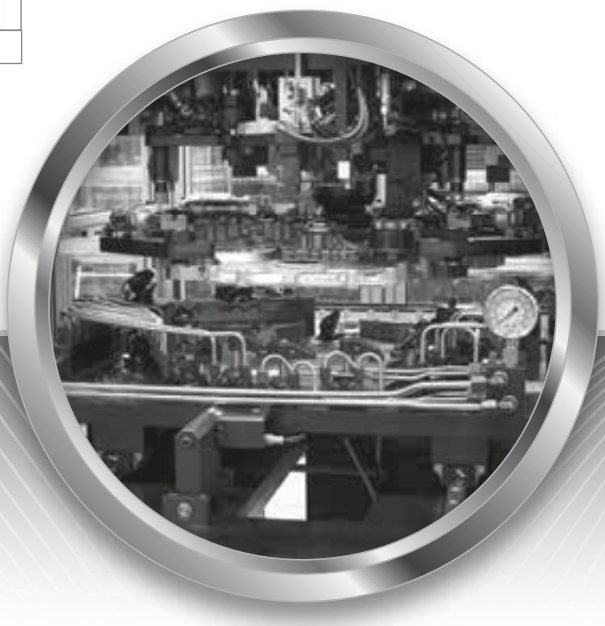
HTM™ SENSORS

- SENSOR PROTECTION DEVICES FOR DOWNTIME REDUCTION
- QUICK-MOUNT COLLARS FOR SIMPLE TWIST-LOCK MOUNTING
- SPRING-MOUNTS TO PREVENT BREAKAGE ON CONTACT
- CONTACT PLUNGERS FOR A RELIABLE HARD STOP SWITCH
- SENSOR CAPS FOR SPATTER AND CONTACT PROTECTION
- RIGHT ANGLE, FLAT AND BLOCK MOUNTING BRACKETS

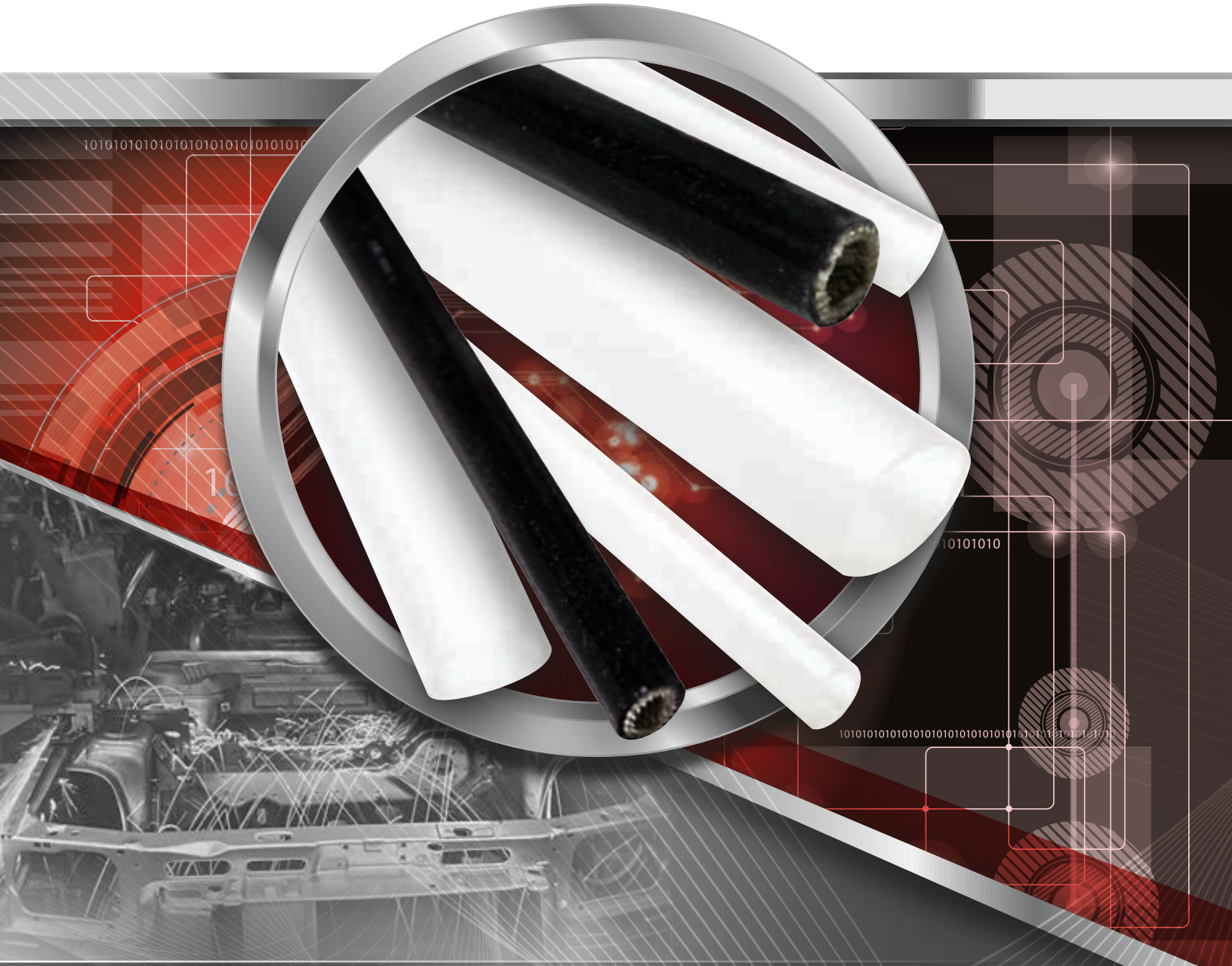
	HARD STOP CONTACT PLUNGERS	QUICK-MOUNT COLLARS	SPRING MOUNTS	PROTECTIVE FACE CAPS
M8 SENSOR	**HBSA-08-50-12**	**HQT-08**	**HSN-08**	**HSC-08**
M12 SENSOR	**HBSA-12-50-12**	**HQT-12**	**HSN-12**	**HSC-12**
M18 SENSOR	**HBSA-18-50-12**	**HQT-18**	**HSN-18**	**HSC-18**
M30 SENSOR	**HBSA-30-50-12**	**HQT-30**	**HSN-30**	**HSC-30**
DEVICE ACTION	The sensor threads into the back of the device. When an object contacts the front of the spring mounted plunger, the plunger bolt moves into the sensing range of the sensor providing an output.	The sensor pushes into the back of the device to the collar at the front. The sensor is held in place with a twist of the collet nut. The face is protected, and the mountng distance is assured each time.	The sensor threads into the back of the device, and a plastic cap is threaded onto the sensor face. When an object hits the cap, the sensor moves backward and the spring action returns it to the original position.	The sensor is mounted freely, or inside a mounting device. The cap is threaded onto the face of the sensor. The cap protects the face of the sensor from heat, contact damage, abrasion, and weld spatter.

	MOUNTING BRACKETS			
RIGHT ANGLE BRACKET	**HRAB-08**	**HRAB-12**	**HRAB-18**	**HRAB-30**
				
FLAT BRACKET	**HFAB-08**	**HFAB-12**	**HFAB-18**	**HFAB-30**
BLOCK MOUNTS	**SBM-MS12-PTFE**	**HMB**		

SENSOR PROTECTION DEVICES ARE CRITICAL FOR THE AGGRESSIVE ELIMINATION OF DOWNTIME, AND CAN BE BEST USED AS PART OF THE PROXWORX™ DOWNTIME REDUCTION SYSTEM.



HTM™ SENSORS



- SILICONE TUBING AND EXPANDABLE SLEEVING FOR SENSOR AND CABLE PROTECTION
- AVAILABLE IN MANY INNER DIAMETERS
- CLEAR SILICONE TO MAINTAIN VISIBILITY TO CABLES AND SENSORS
- SILICONE RUBBER OVER FIBERGLASS BRAID SLEEVING FOR IRREGULAR SHAPED CABLES AND WIRING
- IDEAL FOR PROTECTION FROM HEAT, CUTS AND WELD SPATTER
- AVAILABLE PRE-INSTALLED ON SENSORS AND CABLE PRODUCTS

CLEAR SILICONE TUBING - TEMPERATURE RATING: 500 ºF / 260 ºC			
PART NUMBER	INNER DIAMETER	OUTER DIAMETER	COIL LENGTH
HSCP-0375	0.375"	0.500"	100 ft.
HSCP-0500	0.500"	0.625"	50 ft.
HSCP-0625	0.625"	0.750"	50 ft.
HSCP-0750	0.750"	0.875"	50 ft.
HSCP-1000	1.000"	1.125"	50 ft.

SILICONE TAPE

1" WIDE - 36 ft. ROLL

CLEAR SILICONE TUBING AND SELF-FUSING SILICONE TAPE ARE PROVEN TO REDUCE DOWNTIME IN WELD CELLS BY PROTECTING CABLES, CONNECTORS AND SENSORS.

EXPANDABLE SLEEVING - TEMPERATURE RATING: -55 °C to +200 °C (-67 °F to 392 °F)		
PART NUMBER	INNER DIAMETER	SPOOL LENGTH
BSST-02-100	1.9 mm	100 ft.
BSST-03-100	3.0 mm	100 ft.
BSST-04-100	4.2 mm	100 ft.
BSST-06-100	5.94 mm	100 ft.
BSST-08-100	8.38 mm	100 ft.
BSST-10-100	9.52 mm	100 ft.
BSST-12-100	12.70 mm	100 ft.
BSST-16-100	15.87 mm	100 ft.

EXPANDABLE SLEEVING IS THE IDEAL SILICONE SLEEVING SOLUTION FOR A BROAD RANGE OF APPLICATIONS, ESPECIALLY THOSE REQUIRING A SNUG FIT OVER MORE IRREGULARLY SHAPED CABLE AND WIRING COMPONENTS.

PROXWORX™

COST REDUCTION VENDING

DOWNTIME REDUCTION VENDING SYSTEM

TOTAL COST SAVINGS WITH CONSIGNMENT SERVICE

- VENDOR MANAGED INVENTORY
- CONSIGNMENT STOCK
- CONTINUOUS IMPROVEMENT DATA
- AUTOMATED USAGE MONITORING

HTM™ SENSORS

In the USA: 1889 Maryland Ave., Niagara Falls, NY 14305
In Canada: 3419 Mainway, Burlington, ON L7M 1A9

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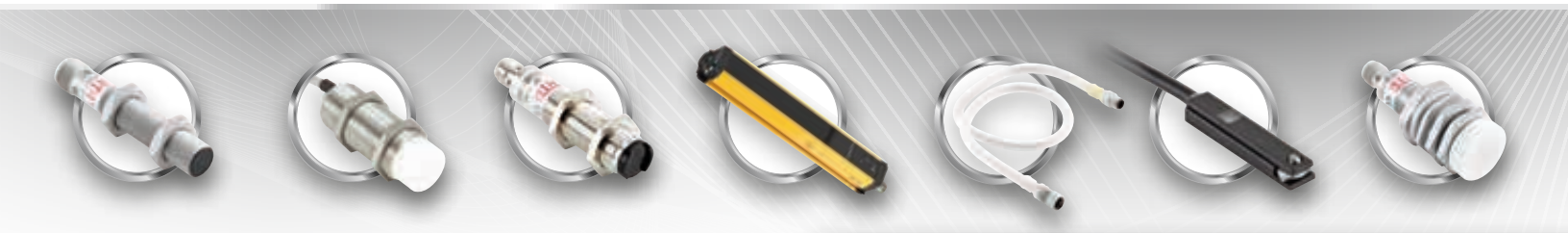

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