Fluid Power

HTM™

SENSORS

WORLD CLASS SENSORS AND
DOWNTIME REDUCTION SERVICES
TO APPLY THEM

HTMSENSORS.COM

HTM™ SENSORS

Serving the owners and operators of automated machinery with world class sensor products and downtime reduction services to apply them.

Automated Welding Sensors

Proximity Sensors

Capacitive Sensors

Photoelectric Sensors

Safety Light Curtains

Sensor Cables & Protection

Field Connectors

Pneumatic Cylinder Sensors

Ultrasonic Sensors

Sensor Protection Devices

Distribution Blocks

Thermo Sensors

Colored LED Touch Buttons

Multi-Colored LED Dome Lights

Signal Column Lights

Signal Tower Lights

IO-Link LED Dome Lights

IO-Link LED Stack Lights

IO-Link LED Machine Lights

Panel Mounts

Linear LED Machine Lights

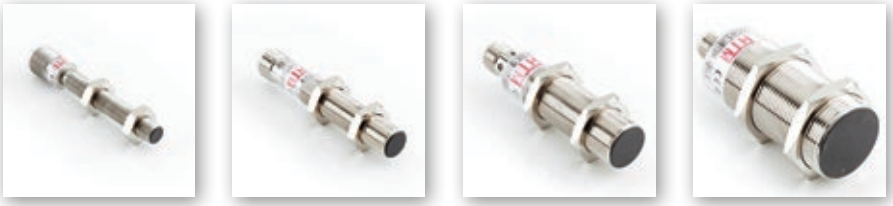
Field Connectors - 4, 5, 8-pin

Sensor Cables - 4, 5, 8-pin

Lighting Accessories

EXTENDED RANGE / LONG RANGE PROXIMITY SENSORS

HTM™ SENSORS



HTM™ SENSORS LIFETIME WARRANTY

- 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

- 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

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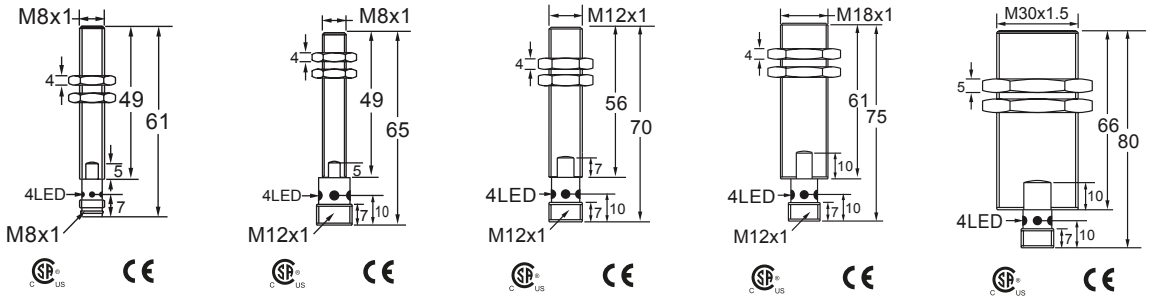
M8 PICO	M8 MICRO	M12	M18	M30

*Dimensional drawings applicable to OCN and LCN only.



Extended Range

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

Long Range

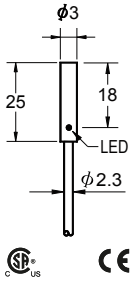
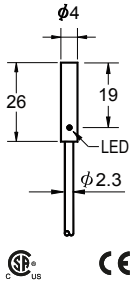
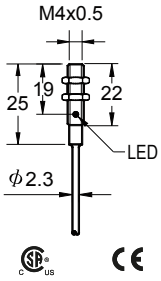
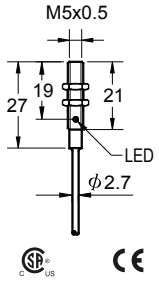
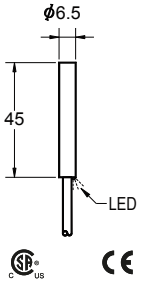
SENSING DISTANCE	3 mm	3 mm	6 mm	12 mm	22 mm
OPERATING VOLTAGE	10-30 VDC				
OPERATING TEMPERATURE	-25 °C - +70 °C				
HOUSING MATERIAL	Stainless Steel		Chrome Plated Brass		
Shielded					
DC 3-wire 10-30 V PNP - Open	LCU1-0803P-ACU3	LCU1-0803P-ARU4	LCM1-1206P-ARU4	LCM1-1812P-ARU4	LCM1-3022P-ARU4
DC 3-wire 10-30 V PNP - Closed	LCU1-0803P-BCU3	LCU1-0803P-BRU4	LCM1-1206P-BRU4	LCM1-1812P-BRU4	LCM1-3022P-BRU4
DC 3-wire 10-30 V NPN - Open	LCU1-0803N-ACU3	LCU1-0803N-ARU4	LCM1-1206N-ARU4	LCM1-1812N-ARU4	LCM1-3022N-ARU4
DC 3-wire 10-30 V NPN - Closed	LCU1-0803N-BCU3	LCU1-0803N-BRU4	LCM1-1206N-BRU4	LCM1-1812N-BRU4	LCM1-3022N-BRU4
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.

MINIATURE INDUCTIVE PROXIMITY SENSORS

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

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

Extended Range

SENSING DISTANCE	0.8 mm	0.8 mm	1 mm	1 mm	1 mm
OPERATING V OLTAGE	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 - EXTENDED RANGE					
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- EXTENDED RANGE					
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

Long Range

SENSING DISTANCE	–	1.5 mm	–	1.5 mm	3 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 - LONG RANGE					
DC 3-wire PNP - NO		LCU1-D0401.5P-A3U2		LCU1-0501.5P-A3U2	LCU1-D0603P-A3U2
DC 3-wire PNP - NC		LCU1-D0401.5P-B3U2		LCU1-0501.5P-B3U2	LCU1-D0603P-B3U2
DC 3-wire NPN - NO		LCU1-D0401.5N-A3U2		LCU1-0501.5N-A3U2	LCU1-D0603N-A3U2
DC 3-wire NPN - NC		LCU1-D0401.5N-B3U2		LCU1-0501.5N-B3U2	LCU1-D0603N-B3U2
0.3 m Cable to M8 3-Pin Connector - LONG RANGE					
DC 3-wire PNP - NO		LCU1-D0401.5P-A3U0.3/P8		LCU1-0501.5P-A3U0.3/P8	LCU1-D0603P-A3U0.3/P8
DC 3-wire PNP - NC		LCU1-D0401.5P-B3U0.3/P8		LCU1-0501.5P-B3U0.3/P8	LCU1-D0603P-B3U0.3/P8
DC 3-wire NPN - NO		LCU1-D0401.5N-A3U0.3/P8		LCU1-0501.5N-A3U0.3/P8	LCU1-D0603N-A3U0.3/P8
DC 3-wire NPN - NC		LCU1-D0401.5N-B3U0.3/P8		LCU1-0501.5N-B3U0.3/P8	LCU1-D0603N-B3U0.3/P8

NOTE: Specifications subject to change without notification.

QUICK-CONNECT SENSOR CABLES

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

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M8

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

M12

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-FS4TZ-P665	R-FA4TZ-P665	R-FS4TZ-T665	R-FA4TZ-T665
4-pin / 3-wire - PNP LED	R-FS4/3TP-V075					
4-pin / 3-wire - NPN LED	R-FS4/3TN-V075					
5-pin / 5-wire	R-FS5TZ-V075		R-FS5TZ-Y075	R-FA5TZ-Y075		
8-pin / 8-wire	R-FS8TZ-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.

H30 PHOTOELECTRIC SENSORS WITH I/O LINK

HTM™ SENSORS

IO-Link

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

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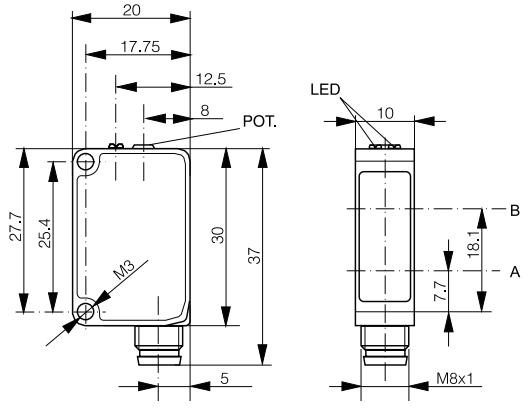
H30 PHOTOELECTRIC SENSORS WITH I/O LINK SPECIFICATIONS

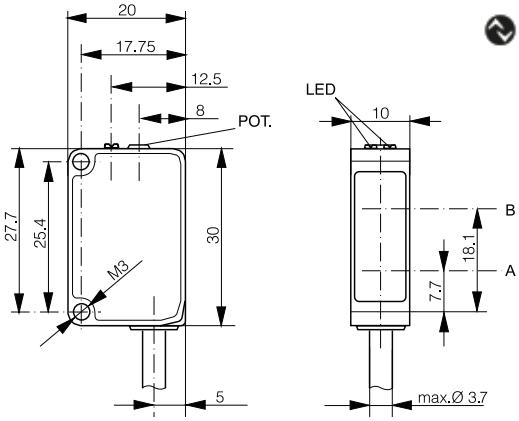
	THRU-BEAM	DIFFUSE	RETROREFLECTIVE	BACKGROUND SUPPRESSION	CLEAR OBJECT DETECTION
SENSING RANGE TYP. MAX.	30 m	1.5 m	8 m	300 mm	5 m
LIGHT SOURCE	N/A	Red LED 630 nm	Red LED 630 nm	PinPoint Red LED 640 nm	Red LED 630 nm
LIGHT SPOT SIZE (DISTANCE)	N/A	ø 15 mm @ 500 m / ø 26 mm @ 1 m	ø 30 mm @ 1 m / ø 140 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			

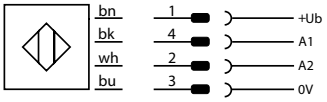


A: emitter axis B: receiver axis



A: emitter axis B: receiver axis

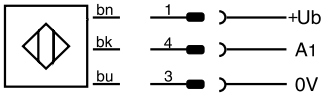
WIRING DIAGRAM - 4-PIN QD



PINS

M8

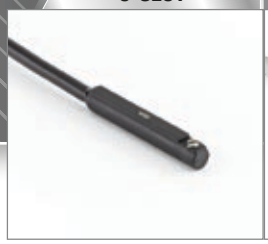
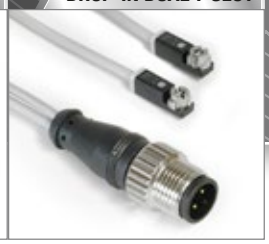
WIRING DIAGRAM - PRE-WIRED



HTM™ SENSORS

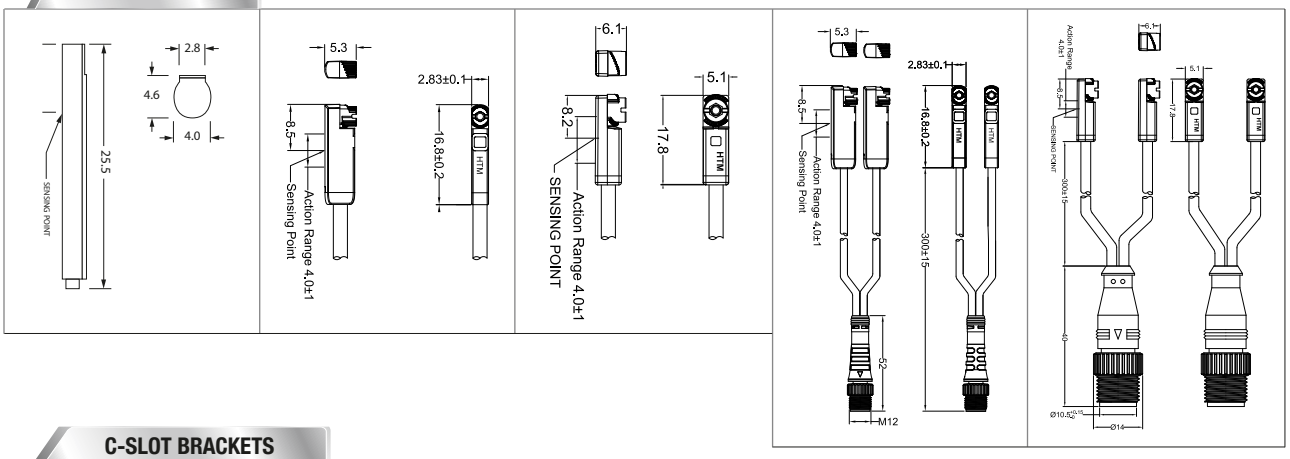
- PNEUMATIC CYLINDER SENSORS FOR THE RELIABLE CONTROL OF PNEUMATIC ACTUATORS
- SINGLE AND DUAL HEAD DESIGNS
- SLIM FIT PLASTIC HOUSINGS FOR EASY MOUNTING, OR RUGGED METAL HOUSINGS FOR TOUGH APPLICATIONS
- MOUNTING FOR POPULAR ACTUATOR PROFILES INCLUDING T-SLOT, C-SLOT AND TUBULAR
- DROP-IN REPLACEMENTS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

PNEUMATIC CYLINDER SENSORS SPECIFICATIONS

	C-SLOT		DROP-IN C-SLOT	DROP-IN T-SLOT	DROP-IN DUAL C-SLOT	DROP-IN DUAL T-SLOT
						
DIMENSIONS (mm)	4 D x 4.6 H x 25.5 L		2.8 W x 5.3 H x 17 L	5.1 W x 6.1 H x 18 L	2.8 W x 5.3 H x 17 L	5.1 W x 6.1 H x 18 L
OPERATING VOLTAGE SOLID STATE	5-28 V DC		5-30 V DC	5-30 V DC	5-30 V DC	5-30 V DC
OPERATING VOLTAGE REED	5-120 V AC/DC		–	–	–	–
CONNECTION	PRE-WIRED	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL	0.3 m PIGTAIL
CONNECTOR	–	M8 3-PIN	M8 3-PIN	M8 3-PIN	M12 4-PIN	M12 4-PIN
PART NUMBERS						
PNP VERSION - Open	PCSC-04/25P-A3U3	PCSC-04/25P-A3U0.3/P8	PCDC-05/17S-A3S0.3/P8 (Auto Select PNP/NPN)	PCDT-06/18S-A3S0.3/P8 (Auto Select PNP/NPN)	PCDC-D05/17S-A4S0.3/P12 (Auto Select PNP/NPN)	PCDT-D06/18S-A4S0.3/P12 (Auto Select PNP/NPN)
NPN VERSION - Open	PCSC-04/25N-A3U3	PCSC-04/25N-A3U0.3/P8				
REED VERSION - Open	PCSC-04/25R-A3U3	PCSC-04/25R-A3U0.3/P8	–	–	–	–
MATING CABLE	–	C-FS3TZ-V885	C-FS3TZ-V885	C-FS3TZ-V885	R-FS4TZ-V885	R-FS4TZ-V885

NOTE: Specifications subject to change without notification.

DIMENSIONS



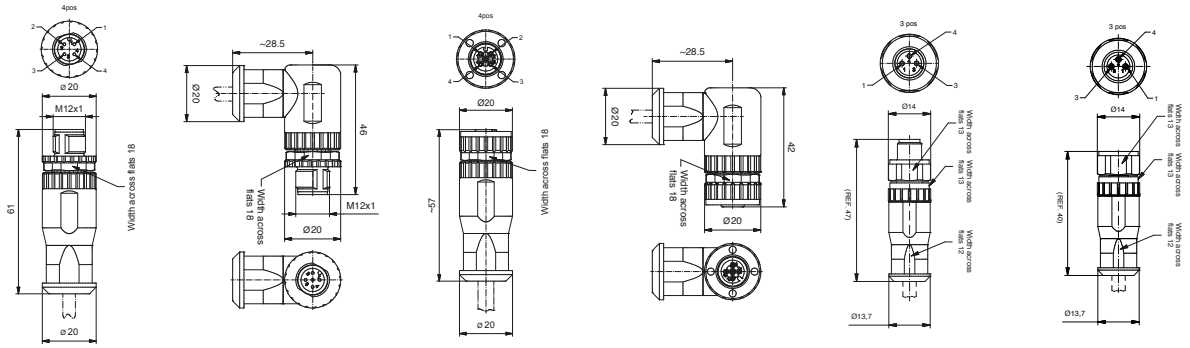
C-SLOT BRACKETS

TIE ROD CYLINDERS		ROUND CYLINDERS	
PC+PCE	**PC+PCD**	**PCB-01**	**PCB-02**
1-1/2" - 2-1/2" BORE	3-1/4" - 8" BORE	244 mm BAND	485 mm BAND

HTM™ SENSORS

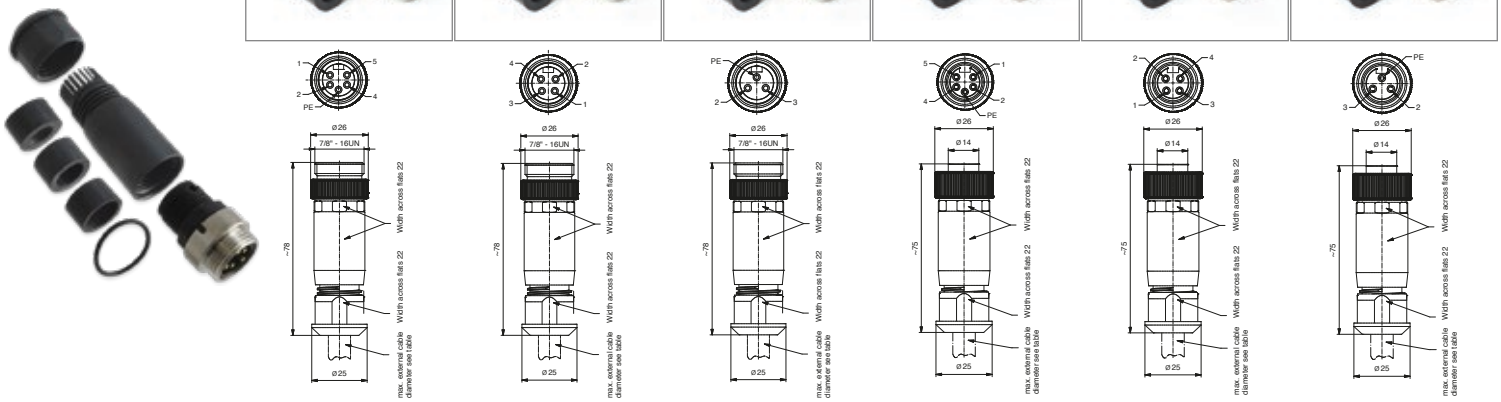
- FIELD CONNECTORS FOR QUICK CABLE REPAIRS AND CONNECTIONS
- LOW PRICES WITH THOUSANDS IN STOCK FOR SAME-DAY SHIPPING
- METAL SCREW TERMINALS FOR A TIGHT CONNECTION
- AVAILABLE IN M12, M8 AND MINI SIZES
- PERFECT SOLUTION TO MATE CABLES TO DISTRIBUTION BLOCKS
- COMPATIBLE WITH DEVICENET BLOCK CONNECTIONS

FIELD CONNECTORS SPECIFICATIONS



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.



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

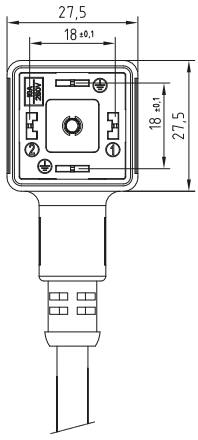
* 7/8" Mini connectors can be utilized in PG9, PG11 and PG13.5 applications. Stock one part for all sizes.

HTM™
SENSORS

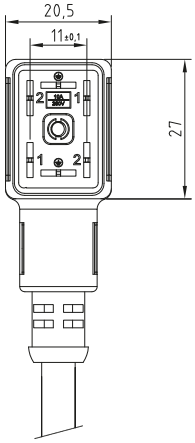
- INDUSTRY STANDARD FORMS (A, B, BI, C, CI)
- AVAILABLE WITH LED AND/OR BUILT-IN SUPPRESSION
- SUPPLIED WITH NBR GASKETS
- BUILT-IN LABEL PLATE
- PVC OR PUR CABLE JACKET AVAILABLE

	FORM A	FORM B INDUSTRIAL	FORM B	FORM C INDUSTRIAL	FORM C
FEMALE CONNECTOR	Angled	Angled	Angled	Angled	Angled
CONTACT SPACING	18 mm	11 mm	10 mm	9.4 mm	8 mm
NUMBER OF POLES	2 + 2 PE	2 + PE	2 + PE	2 + 2 PE	2 + 2 PE
EARTH POSITION	12 & 6	12 & 6	12 or 6	12 & 6	12 & 6
CABLE MATERIAL	PVC				
SECURING SCREW	M3 x 0.5 L28 mm			M3 x 0.5 L22.5 mm	M2.5 x 0.5 L22.5 mm
PROTECTION	IP67				
PART NUMBERS					
24 V AC/DC with LED and MOV	V-AFA2V/R1C-V535	V-B1FA2V/R1C-V535	V-BFA2V/R1A-V535 (Earth position 6) V-BFA2V/R1B-V535 (Earth position 12)	V-C1FA2V/R1C-V535	V-CFA2V/R1C-V535
115 V AC/DC with LED and MOV	V-AFA2V/R2C-V535	V-B1FA2V/R2C-V535	V-BFA2V/R2A-V535 (Earth position 6) V-BFA2V/R2B-V535 (Earth position 12)	V-C1FA2V/R2C-V535	V-CFA2V/R2C-V535
230 V AC/DC No LED or Suppression	V-AFA2U/N0C-V535	V-B1FA2U/N0C-V535	V-BFA2U/N0A-V535 (Earth position 6) V-BFA2U/N0B-V535 (Earth position 12)	V-C1FA2U/N0C-V535	V-CFA2U/N0C-V535
Custom lengths and connector styles are available. NOTE: Specifications subject to change without notification.					

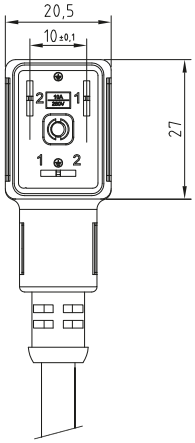
FORM A



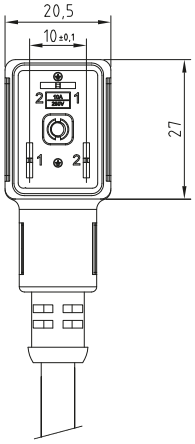
FORM BI



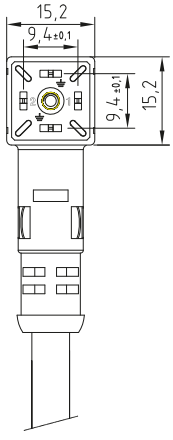
FORM B (Earth Pos. 6)



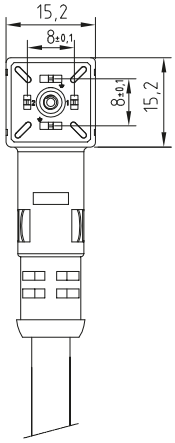
FORM B (Earth Pos. 12)



FORM CI

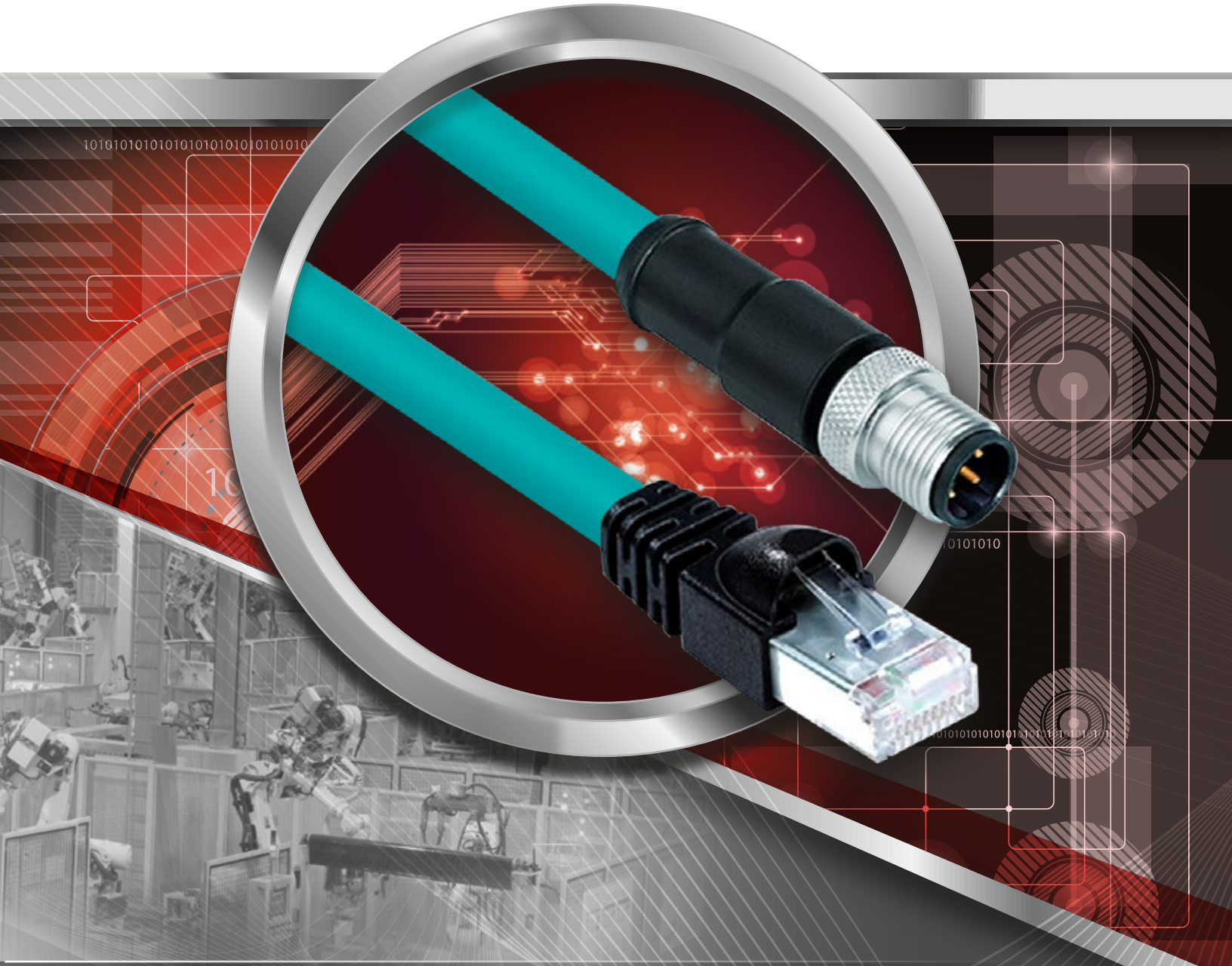


FORM C



SOLENOID FIELD CONNECTORS	FORM A	FORM BI	FORM B	FORM CI	FORM C
24 V AC/DC LED and MOV	FC-AFA2V/R1-PG9/11T	FC-B1FA2V/R1-PG9T		FC-C1FA2V/R1-PG7T	FC-CFA2V/R1-PG7T
230 V AC/DC	FC-AFA2U/N0-PG9/11	FC-B1FA2U/N0-PG9	FC-BFA2U/N0-PG9	FC-C1FA2U/N0-PG7	FC-CFA2U/N0-PG7

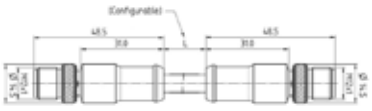
HTM™
SENSORS



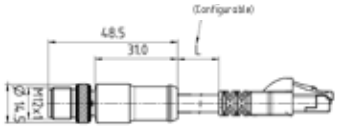
- ETHERNET CABLES FOR HIGH MOTION APPLICATIONS SUCH AS ROBOTS AND SERVOS
- INTERNAL SHIELDING REDUCES EFFECT OF EMI NOISE
- M12 D-CODED, X-CODED, RJ45 TERMINATION
- IP67 PROTECTION RATING

SERIES	DS ETHERNET				
CONNECTOR LOCKING SYSTEM	RJ45/M12				
WIRE GAUGE (AWG)	24				
DEGREE OF PROTECTION	IP20 (with RJ45 connector) / IP67 (with Male to Male connector)				
TEMPERATURE RANGE	-25 ºC - 85 ºC				
RATED VOLTAGE	50				
RATED CURRENT	1.5 A				
VOLUME RESISTIVITY	≤ 3 mΩ				
MATERIAL OF CONTACT	CuZn (Brass)				
CONTACT PLATING	Au (gold)				
HOUSING MATERIAL	PUR				
APPROVAL 1	UL				
CABLE JACKET	TPE				
INSULATION SINGLE LEAD	Polyolefin				
BENDING CYCLES	2 Mio.				
CABLE DIAMETER	6.6				
PART NUMBERS (BY LENGTH)*	**0.3 m**	**0.6 m**	**1 m**	**5 m**	**10 m**
M12 MALE TO M12 MALE	DS-MS4TZ-T970.3+DS-MS	DS-MS4TZ-T970.6+DS-MS	DS-MS4TZ-T971+DS-MS	DS-MS4TZ-T975+DS-MS	DS-MS4TZ-T9710+DS-MS
M12 MALE TO RJ45	DS-MS4TZ-T970.3+RJM45	DS-MS4TZ-T970.6+RJM45	DS-MS4TZ-T971+RJM45	DS-MS4TZ-T975+RJM45	DS-MS4TZ-T9710+RJM45
RJ45 TO RJ45	DS-RJM45-T970.3+RJM45	DS-RJM45-T970.6+RJM45	DS-RJM45-T971+RJM45	DS-RJM45-T975+RJM45	DS-RJM45-T9710+RJM45

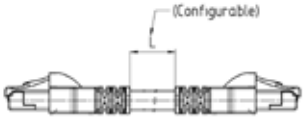
*Available in additional lengths of 2 m, 3 m, 15 m, 20 m, 25 m and 30 m.



D-CODED MALE TO MALE CONNECTOR



D-CODED MALE TO RJ45 CONNECTOR



D-CODED RJ45 CONNECTOR TO RJ45 CONNECTOR

FIELD CONNECTORS

MALE STRAIGHT	**FEMALE STRAIGHT**	**RJ45**
FC-12DMS4P-PG7/9	FC-12DFS4P-PG7/9	FC-RJM45

SAFETY LIGHT CURTAINS - CATEGORY 4
HAND PROTECTION

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

HTMSENSORS.COM

HAND PROTECTION
30 mm / 1/18 in. RESOLUTION

CV-A1-20-B03 / B10

CABLES (3 m / 10 m)

CSME-03VU24-Y14

RELAY

SHOWN: 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.

HTM™
SENSORS

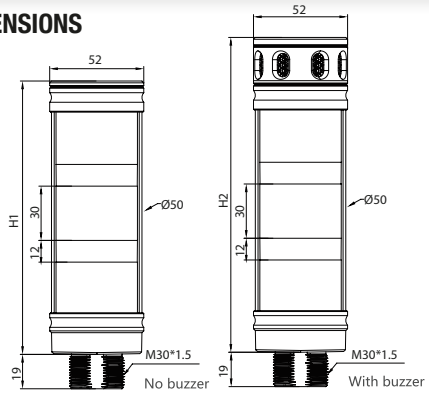
DOME INDICATOR LIGHTS
- DISPLAYS 4 COLORS STEADY ON
- COMPACT AND PATENTED DESIGN, EASY TO SEE OPERATOR GUIDANCE AND EQUIPMENT STATUS
- IP69K, WATERPROOF, SHOCK PROOF, CORROSION PROOF, OIL PROOF
- EASY TO USE, NO OTHER CONTROLLER NEEDED

TOWER LIGHTS
- UNIFORM LIGHT, NO GLARE, ELIMINATE FALSE INDICATION
- COMPACT, MULTI COLORS AVAILABLE
- SPECIALLY DESIGNED BUZZER WITH ADJUSTABLE AUDIO

SPECIFICATIONS

		HLT50 (no buzzer)	HLT50 (buzzer)
DIAMETER (mm)		50	
AVAILABLE COLORS		Red/Yellow/Green/Blue/White	
BUZZER		–	70db - 90db @ 2.7Khz
OPERATING VOLTAGE		24 VDC +/- 10%	
CURRENT DRAW	PER COLOR	40 mA max	
	BUZZER	–	25 mA
INPUT TYPE		Bi-polar	
RESPONSE TIME		On/Off 10mS	
CONNECTION		2 m cable or M12 A-coded quick connect	
OPERATING TEMPERATURE		Without Buzzer -40 ºC to +50 ºC With Buzzer -20 ºC to +50 ºC	
IP RATING		IP65	IP53
HOUSING MATERIAL		ABS	
LENSE MATERIAL		Polycarbonate	
IO-LINK		Please consult factory	

DIMENSIONS



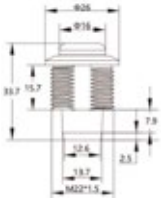
Stack	Tower light Height H	
	No buzzer H1	W/Buzzer H2
2	110mm	133mm
3	152mm	175mm
4	194mm	217mm
5	236mm	—

SPECIFICATIONS

		22 mm	30 mm	50 mm	90 mm
OPERATING VOLTAGE		24 V DC			
OPERATING TEMPERATURE		-40 °C - +50 °C (Buzzer Models -20 °C - +50 °C)			
HOUSING MATERIAL		Powerful SMD LED, high transmittance and reinforced polycarbonate housing, rugged body, unique designed driver			
INDICATION COLORS		Red/Yellow/Green/Blue			
INPUT TYPE		Bipolar			
CURRENT CONSUMPTION		24 V DC 80 mA (Buzzer 30 mA - HL50 only)			
INDICATION COLORS		Red/Yellow/Green/Blue			
IP RATING		IP69K (Buzzer Models are IP53K)			
PART NUMBERS					
2 m Pre-wired	R ■ Y ■ G ■ B ■	**HL22-RYGB-2M**	**HL30-RYGB-2M**	****HL50(B)-RYGB-2M**	**HL90-RYGB-2M**

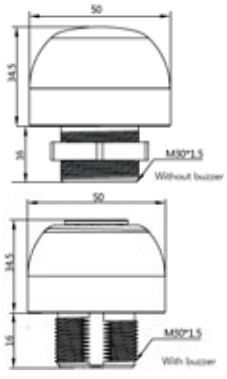
***Please consult factory for touch and buzzer options. **(B) Indicates Buzzer**

DIMENSIONS

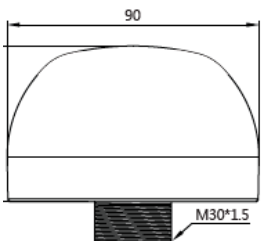


22 mm

30 mm



50 mm



90 mm

PROXWorX™
COST REDUCTION VENDING

DOWNTIME REDUCTION
VENDING SYSTEM

Total Cost Savings with Consignment Service

HTM™ Sensors is committed to the aggressive elimination of downtime. PROXWorx™ vending machines provide the best possible service, inventory control and data for continuous improvement.

Do you have trouble finding parts? Are you having lead-time issues?

TAKE THE PART # challenge

TAKE THE HTM SENSORS PART # CHALLENGE!

Send us your parts to cross-reference to ours. We will show you significant savings versus the part you are currently using.

ARE YOU BREAKING SENSORS TOO OFTEN?

Just ask us for help. Our one-piece stainless steel body and face sensors typically last up to 10x longer than standard sensors.

Call, email or use our LIVE CHAT with a cross reference to challenge HTM Sensors to save you money! Or download our Part # Challenge form at:

https://www.htmsensors.com/content/HTM_PartNumber_Challenge.pdf

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FOR ALL YOUR OTHER MANUFACTURING NEEDS, LET US SAVE YOU MONEY TODAY!

CONTACT US TODAY FOR MORE INFORMATION AND FOR PRICING.

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

Toll Free: 1-800-644-1756

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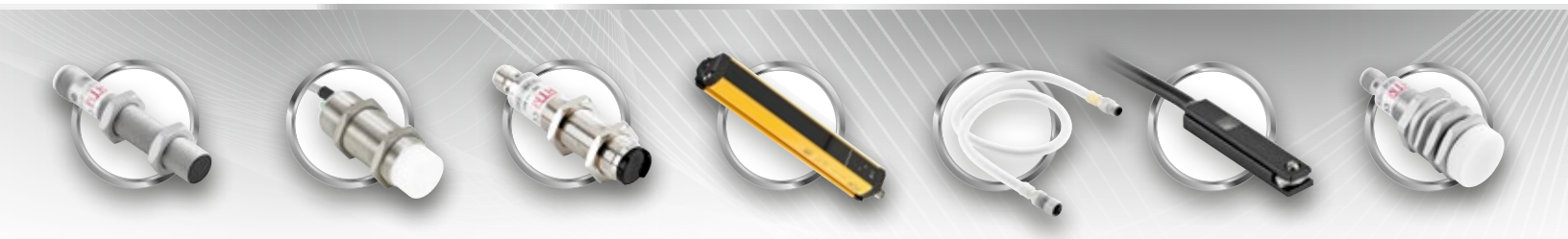

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