CT Series Capacitive Proximity Sensors

CT1-00-2H

CT2-AP-1A

CT2-CP-2H

M30 (30mm) Plastic – DC

Pushbutton Models

- N.O./N.C. selectable
- Pushbutton teach
- LED status indicators
- IP65/IP67 rated
- M12 quick-disconnect; purchase cable separately
- Mounting accessories available

Potentiometer Models

- N.O. or N.C. units available
- Potentiometer sensitivity adjustment
- LED status indicators
- IP65/IP67/IP69K rated
- 2m (6.5 ft) cable or M12 quick-disconnect; purchase cable separately
- Mounting accessories available

NEED CABLES?

CT Series Capacitive Proximity Selection Chart								
Part Number	**Price**	**Sensing Distance**	**Mounting**	**Output State**	**Logic**	**Connection**	**Wiring**	**Dimensions**
Pushbutton select and teach								
CT1-00-2H	$92.00	40 mm [1.58 in]	Non-flush	N.O./N.C.	NPN/PNP	M12 [12mm] quick-disconnect	Diagram 2	Figure 1
Potentiometer sensitivity adjustment								
CT2-AP-1A	$69.00	15mm [0.59 in]	Flush	N.O.	PNP	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-AP-1H	$69.00	15mm [0.59 in]	Flush	N.O.	PNP	M12 micro DC connector	Diagram 2	Figure 3
CT2-CP-1A	$69.00	15mm [0.59 in]	Flush	N.C.	PNP	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-CP-1H	$69.00	15mm [0.59 in]	Flush	N.C.	PNP	M12 micro DC connector	Diagram 2	Figure 3
CT2-AN-2A	$69.00	25mm [0.98 in]	Non-flush	N.O.	NPN	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-AN-2H	$69.00	25mm [0.98 in]	Non-flush	N.O.	NPN	M12 micro DC connector	Diagram 2	Figure 3
CT2-AP-2A	$69.00	25mm [0.98 in]	Non-flush	N.O.	PNP	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-AP-2H	$69.00	25mm [0.98 in]	Non-flush	N.O.	PNP	M12 micro DC connector	Diagram 2	Figure 3
CT2-CN-2A	$69.00	25mm [0.98 in]	Non-flush	N.C.	NPN	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-CN-2H	$69.00	25mm [0.98 in]	Non-flush	N.C.	NPN	M12 micro DC connector	Diagram 2	Figure 3
CT2-CP-2A	$69.00	25mm [0.98 in]	Non-flush	N.C.	PNP	2m [6.5 ft] cable	Diagram 1	Figure 2
CT2-CP-2H	$69.00	25mm [0.98 in]	Non-flush	N.C.	PNP	M12 micro DC connector	Diagram 2	Figure 3

CT Series Capacitive Proximity Sensors

CT Series Capacitive Proximity Specifications			
Model	*CT1-00-2H*	*CT2-xx-xx*	*CT2-xx-xx*
Mounting Type	Non-flush	Flush	Non-flush
Nominal Sensing Distance	40mm [1.58 in]	15mm [0.59 in]	25mm [0.98 in]
Sensitivity	Push to teach	Potentiometer	
Operating Distance	NA		
Material Correction Factors			
Output Type	NPN/PNP; N.O./N.C.		
Operating Voltage	10 to 36VDC	10 to 30VDC	
No-load Supply Current	< 20mA	< 22mA	
Operating (Load) Current	200mA		
Off-state (Leakage) Current	NA		
Voltage Drop	< 2.5 VDC		
Switching Frequency	10Hz	40Hz	
Differential Travel (% of Nominal Distance)	NA		
Repeat Accuracy			
Ripple			
Time Delay Before Availability (tv)			
Reverse Polarity Protection	Yes		
Short-circuit Protection	Yes, pulsed		
Operating Temperature	-25 to 80°C [-13 to 176°F] Sensing face: -25 to 110°C [-13 to 230°F]		
Protection Degree (DIN 40050)	IEC IP65/IP67	IEC IP65/IP67/IP69K	
Indication/Switch Status	Yellow [output energized]		
Housing Material	Polybutylene terephthalate [PBT]		
Sensing Face Material	Polybutylene terephthalate [PBT]		
Shock/Vibration	DIN EN 60947-5-2		
Tightening Torque	8.0 N•m [5.9 lb•ft]		
Weight	117g [4.13 oz]	96.7 g [3.41 oz]	
Connectors	M12 connector, 2 lock nuts included		
Agency Approvals	cULus file E328811, CE		

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

# CT Series Capacitive Proximity Sensors

Wiring Diagrams

Diagram 1
NPN Cable

BROWN — L+

BLACK

BLUE — L−

PNP Cable

BROWN — L+

BLACK

BLUE — L−

Diagram 2
NPN Output

1 BROWN — L+

4 BLACK

3 BLUE — L−

PNP Output

1 BROWN — L+

4 BLACK

3 BLUE — L−
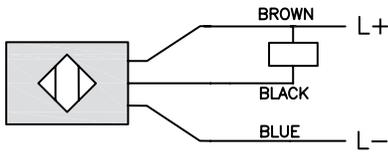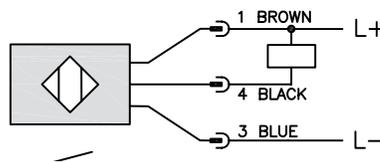
Connector
**M12 connector**

2 1
3 4
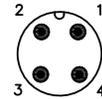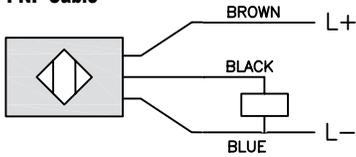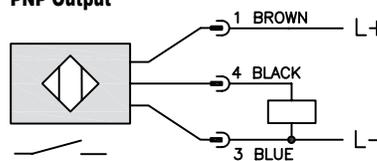
Mounting

NOTE: If the required clear space is not observed for non-flush units, the sensor is predamped. This may lead to permanent switching.
Non-flush sensors may be installed flush in non-conductive materials and have to be installed in non-flush in conductive materials.

Flush

Non-flush

$1 \times Sn$

d

$3 \times d$

Flush

d

$3 \times d$

Non-flush

$1 \times Sn$

d

$3 \times d$

$3 \times Sn$
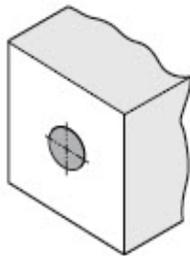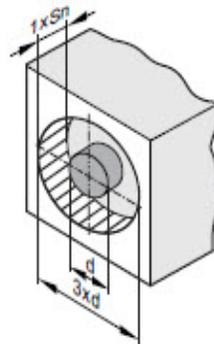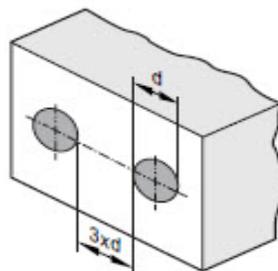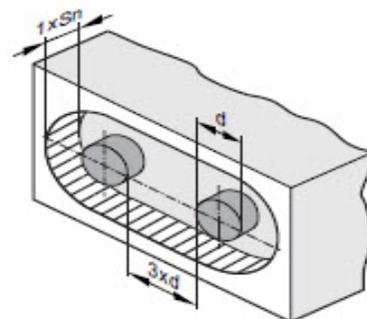
CT Series Capacitive Proximity Sensors

Dimensions

mm [inches]

Figure 1

M30X1.5

4.1 [0.16]

5.0 [0.20]

41.6 [1.64]

36.0 [1.42]

90.0 [3.54]

80.0 [3.15]

61.0 [2.40]

PROGRAM BUTTONS

M12X1.0

Figure 2

41.6 [1.64]

36.0 [1.42]

M30X1.5

1.0 [0.04]

5.0 [0.20]

92.3 [3.63]

80.0 [3.15]

50.0 [1.97]

1

2

Ø 4.0 [0.16]
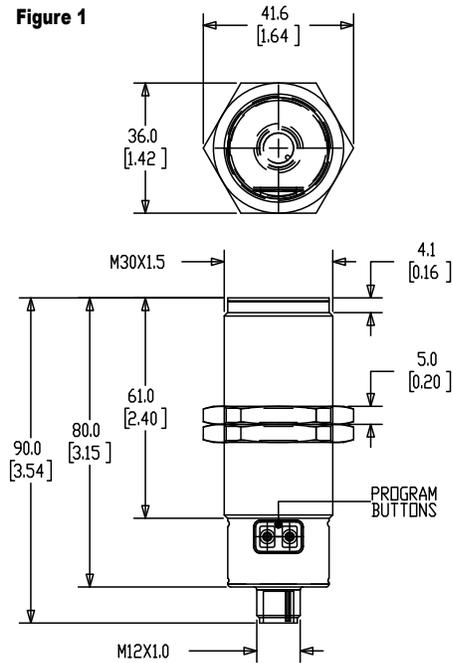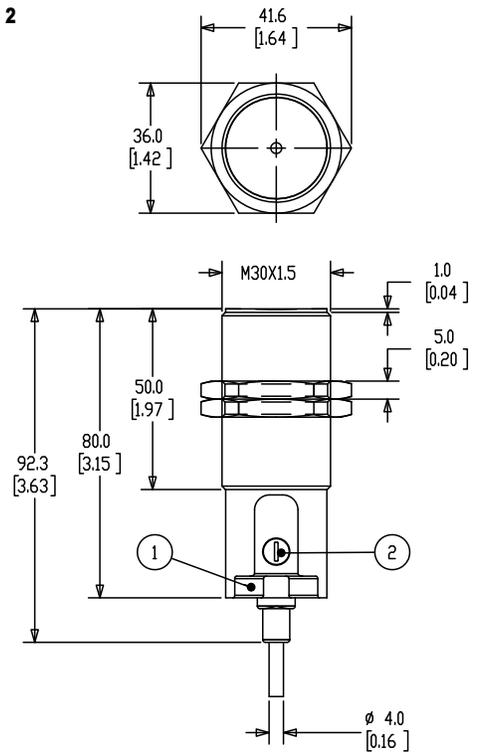
1 = LED YELLOW SWITCHING STATUS
2 = POTENTIOMETER SENSING RANGE

Figure 3

41.6 [1.64]

36.0 [1.42]

M30X1.5

SHIELDED
1.0 [0.04]

5.0 [0.20]

92.3 [3.63]

80.0 [3.15]

50.0 [1.97]

2

1

M12X1.0
QUICK
DISCONNECT

8.5 [0.33]
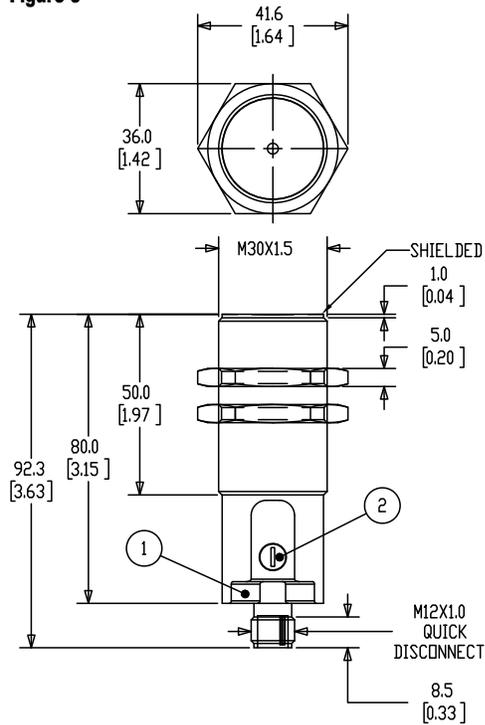
1 = LED YELLOW SWITCHING STATUS
2 = POTENTIOMETER SENSING RANGE

See our website: www.AutomationDirect.com for complete engineering drawings

For the latest prices, please check AutomationDirect.com.

Capacitive Proximity Sensors - Accessories

Mounting Well

Mounting Adapter

Capacitive Proximity Sensors Accessory Chart				
Part Number	**Price**	**Description**	**Material**	**Dimensions**
Mounting Adapter				
CR1-ADPTR	$5.00	Adapter for CR1 series capacitive sensors	Housing: Polybutylene Terephthalate (PBT) Included Screws: M3 x 6 Steel (0.5 N•m [0.37 lb•ft])	Figure 1
Mounting Wells				
MWT-01	$57.00	30mm [1.18 in] sensor mounting well	PTFE - Polytetrafluoroethylene (Teflon®) Temp: -25 to 246°C [-13 to 474.8°F] Max. pressure: 100 PSI [6.9 bar]	Figure 2
MWK-01	$47.00	18mm [0.71 in] sensor mounting well		Figure 3

Dimensions

mm [inches]
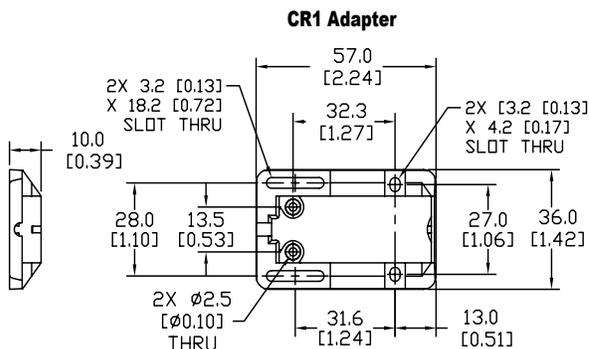
Figure 1

CR1 Adapter

Figure 2

**30mm Sensor Mounting Well**

Figure 3

18mm Sensor Mounting Well
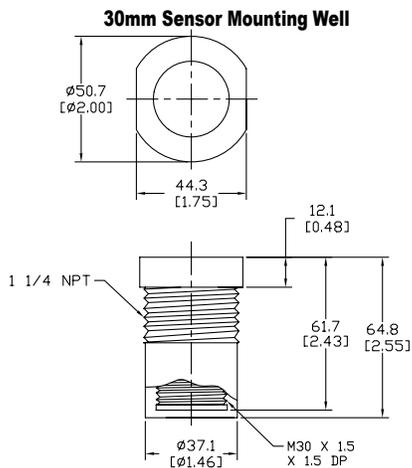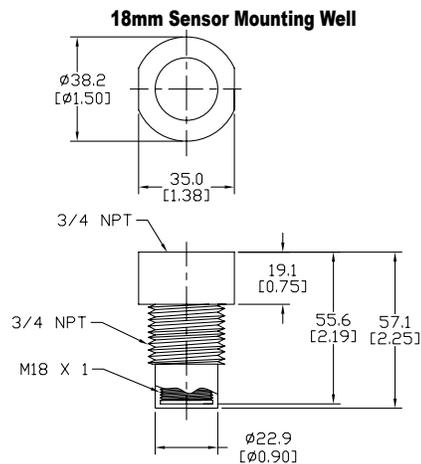
See our website: www.AutomationDirect.com for complete engineering drawings

Accessories for 30mm Sensors

Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST30A	$2.50	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]

ø30.4 [ø1.19]

66.9 [2.63]

17.4 [0.68]

45

16°
16°

91.9 [3.62]

16.0 [0.63]

45.0 [1.77]

R2.6 [R0.10] TYP.

60.2 [2.37]

2.5 [0.10]
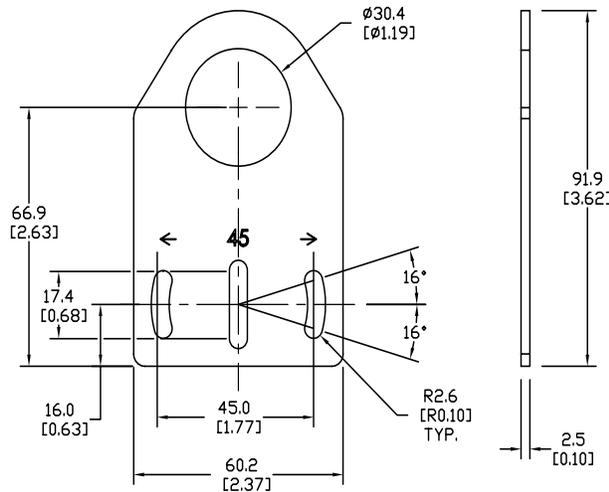
ST30A

Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST30C	$2.50	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]

ø30.4 [ø1.19]

54.3 [2.14]

29.3 [1.15]

90°

2.5 [0.10]

41.6 [1.64]

17.7 [0.70]

45

16°
16°

16.0 [0.63]

45.0 [1.77]

R2.6 [R0.10] TYP.

60.2 [2.37]

ST30C
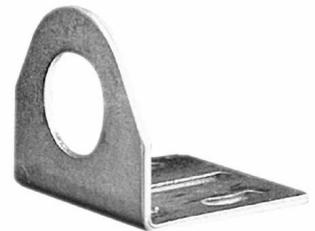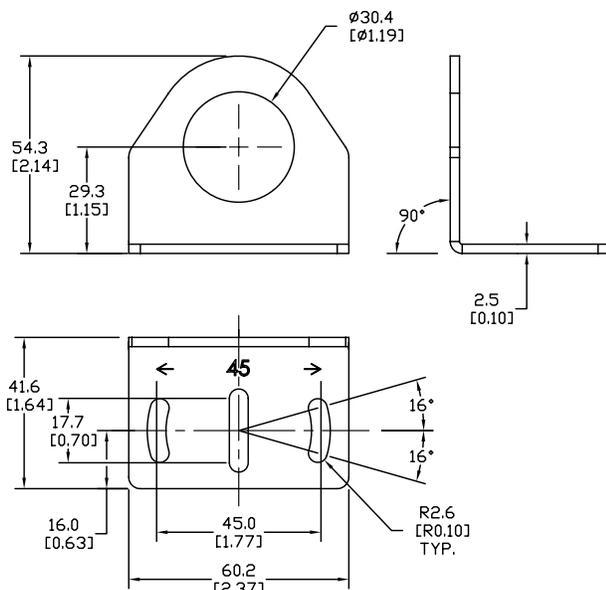
Sensor Accessories

Accessories for 30mm Sensors

Right-angle Mounting Bracket

Mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.

Accessories for FW Series Sensors			
Part Number	*Price*	*Description*	*Weight lb [g]*
ST30C6W	$6.00	AutomationDirect mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.	0.15 (68.0)

Dimensions

mm [inches]
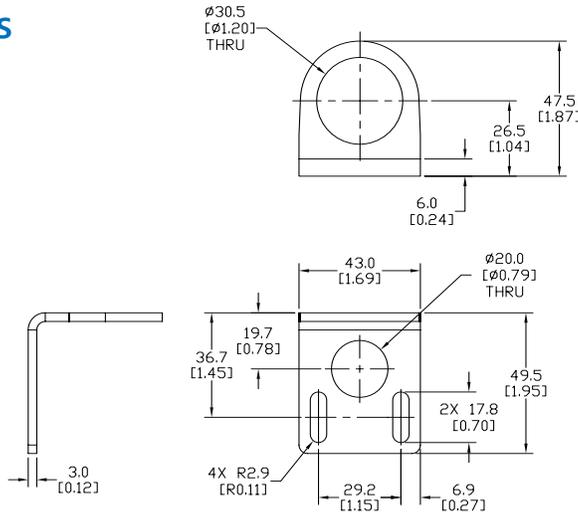
ST30C6W

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

Accessories for 30mm Sensors						
Part Number	*Price*	*Description*	*Mounting Head*	*Mounting Plate*	*Drawing Link*	*Weight lb [g]*
OPT2118	$12.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 30mm sensors.	Aluminum	304 Stainless steel	PDF	0.18 [81.7]
OPT2119	$22.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 30mm sensors.	304 Stainless Steel	304 Stainless steel	PDF	0.18 [81.7]

Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm [7.87 in] length), OPT2110 (300mm [11.81 in] length), and OPT2111 (500mm [19.69 in] length).

OPT2118, OPT2119

Mounting Rods and Brackets

Mounting Rods

304 Stainless steel rods for mounting swivel brackets OPT2112 - OPT2127
Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

Mounting Rods for OPT2112-2127 Swivel Mounting Brackets				
Part Number	Price	Description	Drawing Link	Weight lb (g)
OPT2109	$14.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	$17.50	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	$22.50	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	0.98 [444.52]

Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods
OPT2109, OPT2110 & OPT2111.

Right-angle Mounting Brackets for 12mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
OPT2108	$17.50	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]