Installation Manual

The *SMARTEYE*® X-PRO XPC is the most versatile Photoelectric Communication Sensor available on the market. Its patented communication technology allows for instant access, as well as feedback to and from the sensor. This unique photoelectric sensor is designed to be used in any application where physical contact of the sensor is either restricted, undesirable, or adds too much time to production line throughput. There are two communication options available; RS-485 for multi-drop applications, or RS-232 for single-drop applications. These sensors can be easily interfaced to HMI's or PLC's using MODBUS ASCII or RTU communication protocol. Our unique and comprehensive EyewareXPC software comes at No Charge in either the development kit or upon request from the factory. We can also custom configure software requirements. ***Please consult factory for Command Set, Development Kit, and details for custom software.***

SETUP INSTRUCTIONS:

Push and Hold yellow button for Light On output. Tap the red button for Light State or Dark State AUTOSET. Release button.
Push and Hold red button for Dark On output. Tap the yellow button for Light State or Dark State AUTOSET. Release button.

Example:For Light On/Light State AUTOSET in the proximity/diffused mode, place the product in view of the sensor, push and hold the yellow button, view the contrast indicator. If the LEDs are moving from 1 to 10, then release yellow button for an AUTOSET. If the LEDs are moving from 10 to 1, tap the red button, then release yellow button for an AUTOSET. The output will turn on each time a product comes into view of the sensor.

OPTIONS MODE:
Press and hold both buttons for access. Use red button to step down to options, use yellow button to select/deselect.
NOTE: Any changes to the sensor will automatically be saved to current MEM # location.

How to Specify

1. Select Sensor Communication Type required:
XPC**2** = RS-232 MODBUS ASCII
XPC**3** = RS-232 MODBUS RTU
XPC**4** = RS-485 MODBUS ASCII
XPC**5** = RS-485 MODBUS RTU

2. Select Sensor LED Light Source required:
XPC# **W** = White
XPC# **R** = Red
XPC# **I** = Infrared

3. Select Optical Block:

F4 Glass Fiber Optic
F5 Plastic Fiber Optic
V4 Convergent Lens, 1.0" Focal Point
V4A Convergent Lens, 1.0" Focal Point
V6 Convergent Lens, 1.5" Focal Point
V8 Convergent Lens, 0.5" Focal Point
R4 Retroreflective Lens
R5 Polarized Retroreflective Lens
O4 Wide Beam Proximity Lens
O5 Long Range Proximity Lens

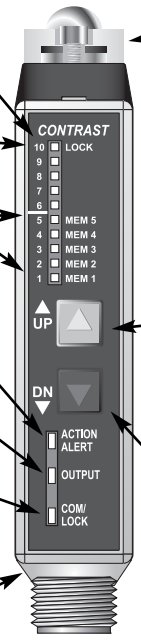
Example: XPC 4 W F4

X-PRO, Photoelectric Communication Sensor

2 = RS-232 MODBUS ASCII
3 = RS-232 MODBUS RTU
4 = RS-485 MODBUS ASCII
5 = RS-485 MODBUS RTU

Light Emitter
I = Infrared
R = Red
W = White

Optical Block



DUAL FUNCTION BAR GRAPH
Primary function: Contrast Indicator Secondary function: Option Status Indicator of 6 selectable options

#10 LOCK
Tamperproof Operation

#5 – #1 MEMORY (MEM)
Illuminates to indicate active memory and/or selecting new memory

ACTION ALERT INDICATOR
Illuminates when action alert occurs

OUTPUT STATUS INDICATOR
Illuminates when Output is "ON"

COM/LOCK MODE INDICATOR
Illuminates during communication activity and/or when Lock feature is enabled

LARGE HIGH VISIBILITY OUTPUT INDICATOR
Illuminates when Output is "ON"

10 INTERCHANGEABLE OPTICAL BLOCKS
1. O4 (Wide Beam Proximity)
2. O5 (Long Range Proximity)
3. R4 (Retroreflective)
4. R5 (Polarized Retroreflective)
5. V4 (Convergent, 1" Axis)
6. V4A (Convergent, 1" Axis, Apertured)
7. V6 (Convergent, 1.5" Axis)
8. V8 (Convergent, 0.5" Axis)
9. F4 (Glass Fiberoptic Light Guides)
10. F5 (Plastic Fiberoptic Light Guides)

YELLOW PUSHBUTTON – 3 Functions
1. Manual "UP" adjustment
2. Light On AUTOSET Programming & Light State/Dark State select
3. When in Option Status Mode, tap to toggle selected option to opposite state and return to normal operation

RED PUSHBUTTON – 3 Functions
1. Manual "DOWN" adjustment
2. Dark On AUTOSET programming & Light State/Dark State select
3. When in Option Status Mode, tap or scroll to desired function to be altered

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Specifications

SUPPLY VOLTAGE
- 10 to 30 VDC
- Polarity Protected
- Intended for use in Class 2 circuits

CURRENT REQUIREMENTS
- 45mA (exclusive of load)

OUTPUT TRANSISTORS
- (1) NPN and (1) PNP sensor output transistors
- Outputs sink or source up to 150mA (current limit)
- All outputs are continuously short circuit protected

REMOTE AUTOSET INPUT/AUX I/O
- Opto-isolated momentary sinking input (10mA)
- Can be configured as INPUT or OUTPUT

2-WIRE COMMUNICATION
- RS-485 or RS-232 models available

RESPONSE TIME
- 60µs (High Speed Mode)
- 125µs (Standard Mode)
- 450µs (Long Range/High Rez Mode)

REPEATABILITY
- 20µs (High Speed Mode)
- 25µs (Standard Mode)
- 50µs (Long Range/High Rez Mode)

LED LIGHT SOURCE
- Infrared = 880 nm, Red = 660 nm, White = Broadband Color Spectrum

PUSHBUTTON CONTROL
- AUTOSET
- Manual Adjustments
- Set status of options: 10) Lock, 5–1) Five Memory Locations

HYSTERESIS
- Software Configured by User; Factory Default Setting = 1.

LIGHT IMMUNITY
- Responds to sensor's pulsed modulated light source – immune to most ambient light including indirect sunlight

DIAGNOSTIC INDICATORS
- 10-LED dual-function bar graph operates in one of two modes:
  1. Contrast Indicator – Displays scaled reading of sensor's response to contrasting light levels (light to dark)
  2. Status Indicator – Displays status of selectable options
- Red LED Output Indicator – Illuminates when the sensor's output transistors are "ON"
  NOTE: If Output LED flashes, a short circuit condition exists
- Amber LED – Illuminates when Action Alert occurs
- Yellow LED – Illuminates during Com Activity and/or when Lock feature is enabled
- Blue LED Output Indicator - Illuminates when output is "ON"
  Flashes when Locate button activated on EyewareXPC Screen 2

AMBIENT TEMPERATURE
- 0°C to 70°C (32°F to 158°F)

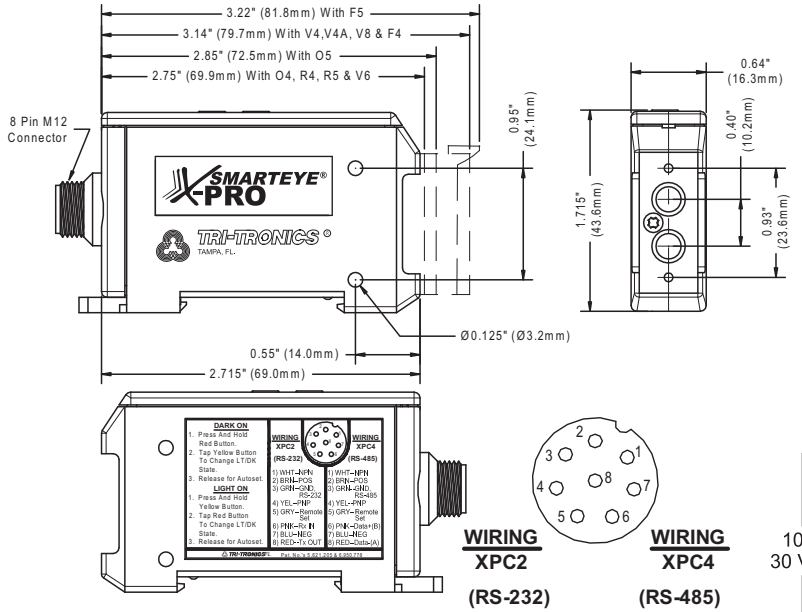
RUGGED CONSTRUCTION
- Chemical resistant, high impact polycarbonate housing
- Waterproof ratings: NEMA 4X, 6P and IP67
- Conforms to heavy industry grade CE requirements

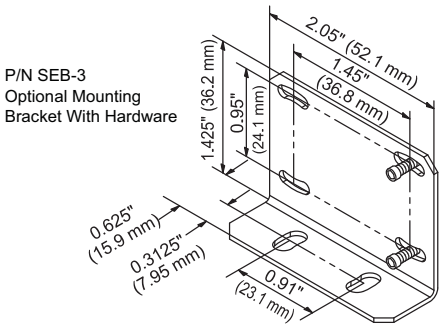
Patents No. 5,621,205 and No. 6,250,77

RoHS Compliant
Product subject to change without notice.

Connections and Dimensions

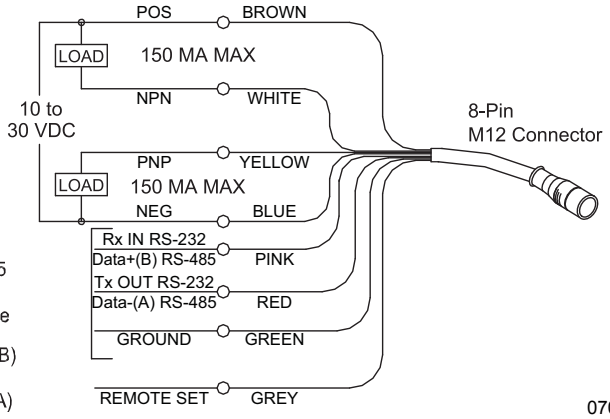
SMARTEYE® X-PRO XPC





WIRING XPC2 (RS-232)
1) WHT--NPN
2) BRN--POS
3) GRN--GND, RS-232
4) YEL--PNP
5) GRY--Remote Set
6) PNK--Rx IN
7) BLU--NEG
8) RED--Tx OUT

WIRING XPC4 (RS-485)
1) WHT--NPN
2) BRN--POS
3) GRN--GND, RS-485
4) YEL--PNP
5) GRY--Remote Set
6) PNK--Data+(B)
7) BLU--NEG
8) RED--Data-(A)



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