


## REMOTE SENSOR SERIES

### Description

**Operation mode and max sensing range:**  
 Thru-beam: *Dependent on amplifier (up to 70m)*  
 Diffuse proximity: *Dependent on amplifier (up to 5m)*  
**Optional sensor monitor LED**  
**Wide variety of housings**  
**High tolerance to hostile environments**  
**Cable or plug connections**  
 Available with optional  ATEX approval



The remote sensor series, which consists of a transmitter LT and receiver LR, is made to operate in conjunction with a Telco photoelectric amplifier from the PA, MPA or PAB programmes.


The series is available with optional power-(LR) and output-(LT) monitor LEDs for use with any Telco photoelectric amplifier which has the sensor LED drive feature incorporated.

The remote sensors are available in a wide range of housings, with either cable or plug connection, and may be used in thru-beam or diffuse proximity mode.

### Technical Data

		LT	LR
Light source		Infrared, (880 nm)	-
Photo transistor		-	Silicon NPN
Housing material	Sensor housing	Refer to Available Types	
	Front lens	Polycarbonate	
Cable, PVC Ø 4,0 mm		2 x 0,25 mm <sup>2</sup>	1 x 0,25 mm <sup>2</sup> + shield
Min. cable bending radius		45 mm	

### Environmental Data

Vibration		10-55 Hz, 0,5 mm
Shock		30 g
Light immunity, @ 20° incidence	101 Series 100	50 000 lux
	Series 110 / 120	80 000 lux
	Series	100 000 lux
Temperature, operation		-25 to +65 °C
Temperature, storage		-40 to +80 °C
Sealing class		IP 67
Approvals		a 

## REMOTE SENSOR SERIES

### Available Types

	Series	Optical Angle	Connection		5 m cable	15 m cable	3 pin, M8 plug	4 pin, M12 plug
			Housing Material	Housing Type				
Transmitter	101	+/- 10°	Polycarbonate	Ø10	LT 101 AP25 5	LT 101 AP25 15	LT 101 AP25 T3	-
				M12 x 1	LT 101 TP25 5	LT 101 TP25 15	LT 101 TP25 T3	-
			Nickel Plated Brass	M12 x 1	LT 101 TB25 53	LT 101 TB25 153	LT 101 TB25 T3	-
					Stainless Steel (AISI 316)	LT 101 TS25 53	LT 101 TS25 153	LT 101 TS25 T3
			Polyester	9,5 x 11,5	LT 101 SG 52	LT 101 SG 152	LT 101 SG T3	-
			ABS	Ø12,7 Snap	LT 101 S22 52	LT 101 S22 152	-	-
Receiver	101	+/- 6°	Polycarbonate	Ø10	LR 101 AP25 5	LR 101 AP25 15	LR 101 AP25 T3	-
				M12 x 1	LR 101 TP25 5	LR 101 TP25 15	LR 101 TP25 T3	-
			Nickel Plated Brass	M12 x 1	LR 101 TB25	LR 101 TB25	LR 101 TB25 T3	-
					Stainless Steel (AISI 316)	53	153	LR 101 TS25 T3
			Polyester	9,5 x 11,5	LR 101 TS25	LR 101 TS25	LR 101 SG T3	-
			ABS	Ø12,7 Snap	53	153	-	-

Transmitter	100	+/- 12° (High Power)	Polycarbonate	Ø10	LR 101 S22 52 LT 100H AP38 5	LR 101 S22 152 LT 100H AP38 15	LT 100H AP38 T3	-
				M12 x 1	LT 100H TP38 5	LT 100H TP38 15	LT 100H TP38 T3	-
			Nickel Plated Brass	M12 x 1	LT 100H TB38	LT 100H TB38	LT 100H TB38 T3	LT 100H TB58 J
					Stainless Steel (AISI 316)	53 LT 100H	153 LT 100H TS38	LT 100H TS38 T3
			Polyester	9,5 x 11,5	TS38 53 LT	153 LT 100H SG	LT 100H SG T3	-
			Polycarbonate	Ø12,7 Snap	100H SG 52 LT	152 LT 100H S30	-	-
		+/- 6°	Polycarbonate	Ø10	100H S30 52 LT	152 LT 100 AP38	LT 100 AP38 T3	-
				M12 x 1	100 AP38 5 LT	15 LT 100 TP38	LT 100 TP38 T3	-
			Nickel Plated Brass	M12 x 1	100 TP38 5 LT	15 LT 100 TB38	LT 100 TB38 T3	LT 100 TB58
					Stainless Steel (AISI 316)	100 TB38 53 LT	153 LT 100 TS38	LT 100 TS38 T3
			Polyester	9,5 x 11,5	100 TS38 53 LT	153 LT 100 SG	LT 100 SG T3	J -
			Polycarbonate	Ø12,7 Snap	100 SG 52 LT	152 LT 100 S30	-	-
Receiver	100	+/- 7°	Polycarbonate	Ø10	100 AP38 5 LR	15 LR 100 TP38	LR 100 AP38 T3	-
				M12 x 1	100 TP38 5 LR	15 LR 100 TB38	LR 100 TP38 T3	-
			Nickel Plated Brass	M12 x 1	100 TB38 53 LR	153 LR 100 TS38	LR 100 TB38 T3	LR 100 TB58 J
					Stainless Steel (AISI 316)	100 TS38 53 LR	153 LR 100 SG	LR 100 TS38 T3
			Polyester	9,5 x 11,5	100 SG 52 LR	152 LR 100 S30	LR 100 SG T3	-
			Polycarbonate	Ø12,7 Snap	100 S30 52	152	-	-

Receiver	110	+/- 5°	Polycarbonate	Ø10	LT 110 AP38 5	LT 110 AP38 15	LT 110 AP38 T3	-
			Nickel Plated Brass	M12 x 1	LT 110 TP38 5	LT 110 TP38 15	LT 110 TP38 T3	-
					Stainless Steel (AISI 316)	LT 110 TB38 53	LT 110 TB38 153	LT 110 TB38 T3
		+/- 3°	Polycarbonate	Ø10	LR 110 AP38 5	LR 110 AP38 15	LR 110 AP38 T3	J -
				M12 x 1	LR 110 TP38 5	LR 110 TP38 15	LR 110 TP38 T3	-
			Nickel Plated Brass	M12 x 1	LR 110 TB38 53	LR 110 TB38 153	LR 110 TB38 T3	LR 110 TB58 J
Stainless Steel (AISI 316)	LR 110 TS38 53	LR 110 TS38 153			LR 110 TS38 T3	LR 110 TS58 J		

Receiver	Transmitter	120	+/- 4°	Nickel Plated Brass	M18 x 1	LT 120 TB45 53	LT 120 TB45 153	-	LT 120 TB45 J
			+/- 2,5°			LR 120 TB45 53	LR 120 TB45 153	-	LR 120 TB45 J

Note: 1. Photo amplifiers to be ordered separately.

2. Remote sensors are available with optional power (LR) and output (LT) monitor LEDs for use with the applicable Telco photoelectric amplifier, which has the sensor LED drive. Add 'L' after the series number for sensor monitor LED e.g. LT/LR 101L AP 25 5. Sensors marked 2 are not available with this optional feature.

3. Remote Sensor series with metal housing and cable connection is available to comply with ATEX  II 3 G Ex nA IIC T6 Gc and II 3D Ex tc IIIC T100 °C Dc. Add "/EX" after the series number e.g. LT/LR 100/EX TS38 5. Sensors marked 3 are available to comply with ATEX approval.

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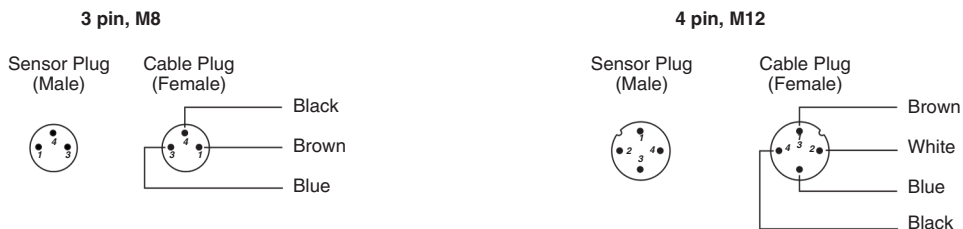
## Applicable Photoelectric Amplifiers and Maximum Ranges

Remote Sensor Series	101		100		110		120	
	Thru-beam	Diffuse Proximity	Thru-beam	Diffuse Proximity	Thru-beam	Diffuse Proximity	Thru-beam	Diffuse Proximity
<b>Photoelectric Amplifier Series</b>								
PA 01	8 m	0,6 m	10 m	0,7 m	23 m	1,6 m	45 m	3,5 m
PA 10 A B	11 m	0,9 m	–	–	–	–	–	–
	–	–	15 m	1,1 m	35 m	2,0 m	60 m	4,0 m
PA 11 PA 15 Multiplexed	–	–	18 m	1,3 m	40 m	2,7 m	70 m	5,0 m
Amplifier Series MPA 21	–	–	18 m	1,3 m	40 m	2,7 m	70 m	5,0 m
<b>MPA 41</b>								
	–	–	10 m	0,7 m	25 m	1,6 m	45 m	3,5 m
A/B C/D	–	–	8 m	0,6 m	18 m	1,3 m	35 m	2,0 m
	–	–	4 m	0,4 m	9 m	0,7 m	18 m	1,3 m
MPA 81 A/B C/D	–	–	8 m	0,6 m	18 m	1,3 m	35 m	2,0 m
	–	–	4 m	0,4 m	9 m	0,7 m	18 m	1,3 m
<b>Photoelectric Amplifier Bus Series</b>								
PAB 10 PAB 20 PAB 30	–	–	18 m	1,3 m	40 m	2,7 m	70 m	5,0 m
	–	–	12 m	0,8 m	27 m	1,7 m	47 m	3,6 m
	–	–	12 m	0,8 m	27 m	1,7 m	47 m	3,6 m

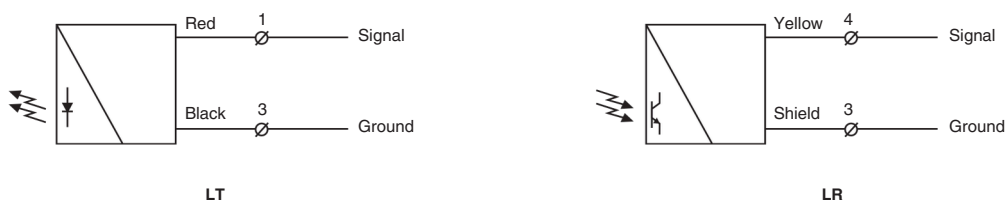
Note: 1. Sensing range of LT 100H high power used in conjunction with the LR 100 increases range by 25% in 100 series sensing ranges.  
2. Sensing ranges using glass fibre optics, please refer to page 169.

## Connections

	Cable	M8 Plug / Cable	M12 Plug / Cable
Transmitter Signal	Red	Pin 1 / Brown	Pin 1 / Brown
Transmitter Ground	Black	Pin 3 / Blue	Pin 3 / Blue
Receiver Signal	Yellow	Pin 4 / Black	Pin 4 / Black
Receiver Ground	Shield	Pin 3 / Blue	Pin 3 / Blue

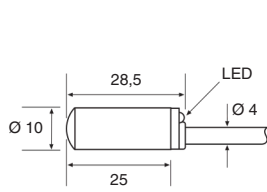


## Wiring Diagrams

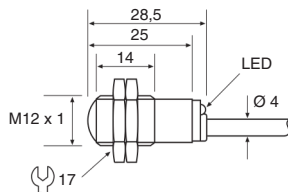


## Dimensions and Descriptions

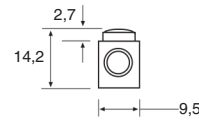
### Series 101



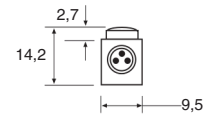
AP25 5/15



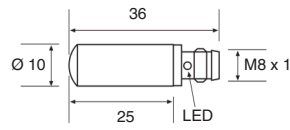
TP/TB/TS25 5/15



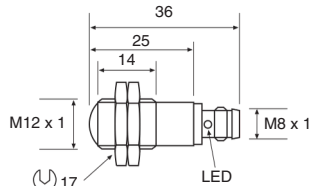
SG 5/15



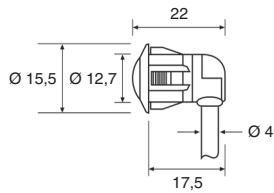
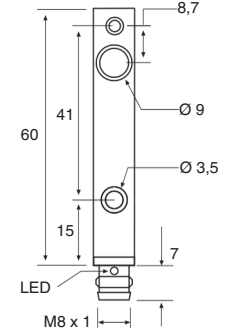
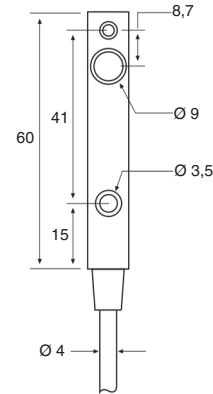
SG T3



AP25 T3

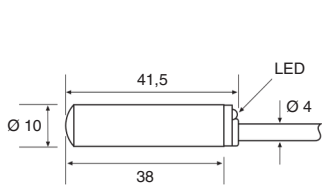


TP/TB/TS25 T3

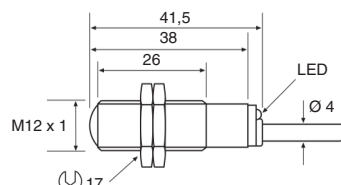


S22 5/15

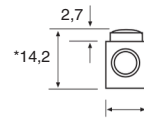
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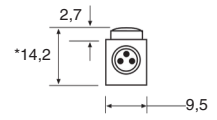
AP38 5/15



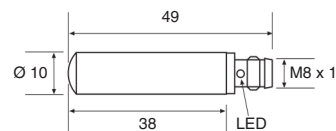
TP/TB/TS38 5/15



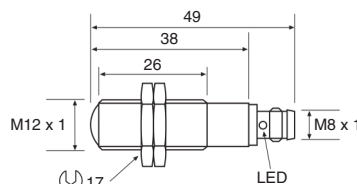
SG 5/15



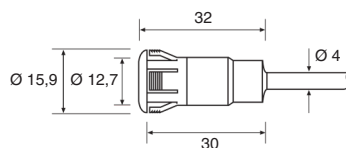
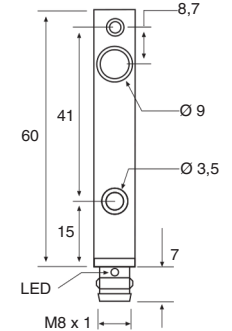
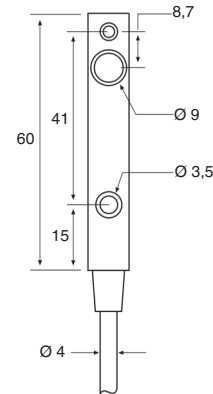
SG T3



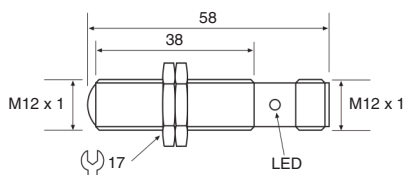
AP38 T3



TP/TB/TS38 T3



S30 5/15



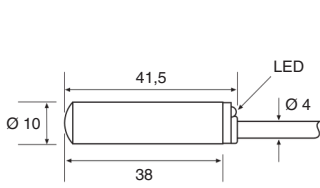
TB/TS58 J

\* LT 100H: 16

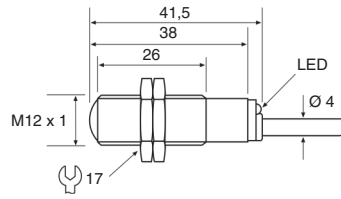
(Units in mm)

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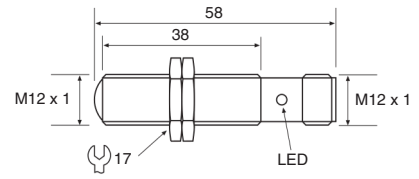
## Series 110



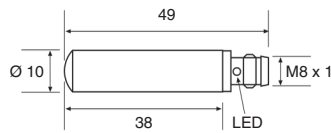
AP38 5/15



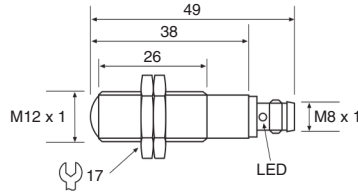
TP/TB/TS38 5/15



TB/TS58 J

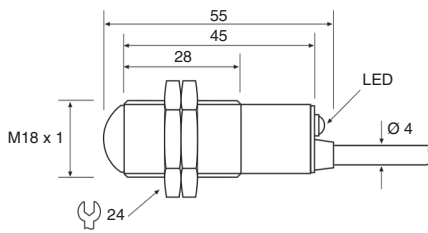


AP38 T3

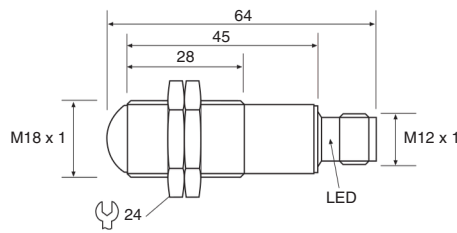


TP/TB/TS38 T3

## Series 120



TB45 5/15

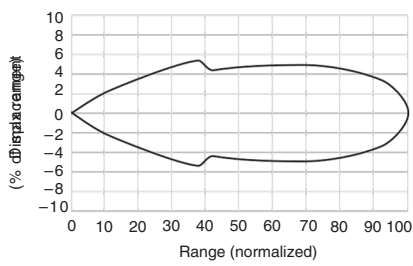


TB45 J

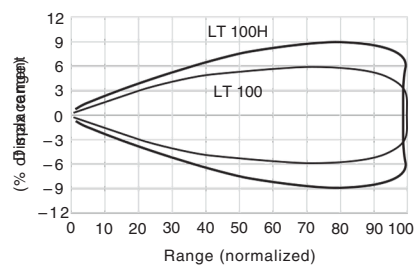
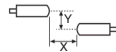
(Units in mm)

## Sensing Characteristics

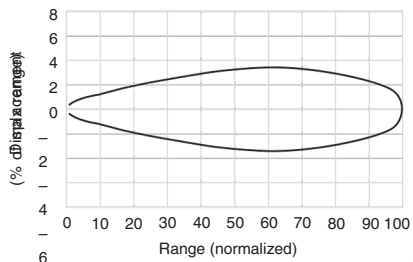
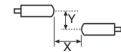
### Parallel Displacement (Thru-beam)



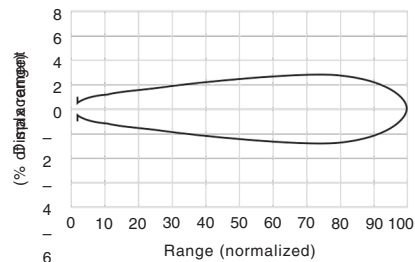
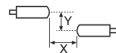
Series 101



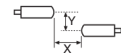
Series 100



Series 110

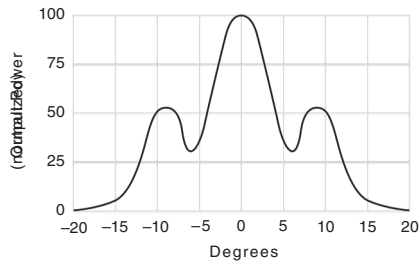


Series 120

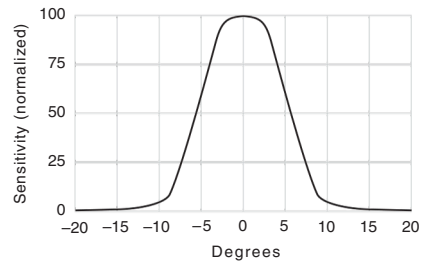


Sensing Characteristics

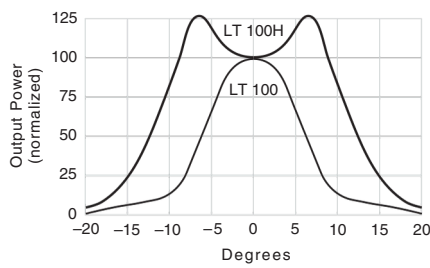
Angular Displacement (Thru-beam)



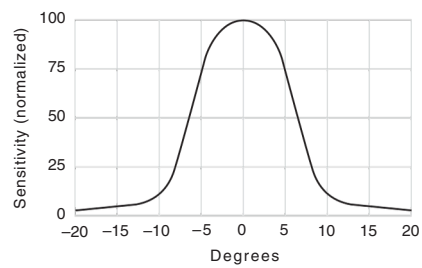
LT 101



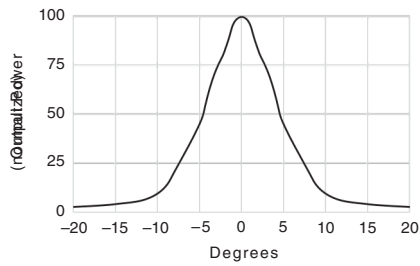
LR 101



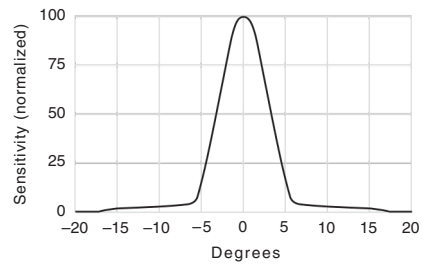
LT 100



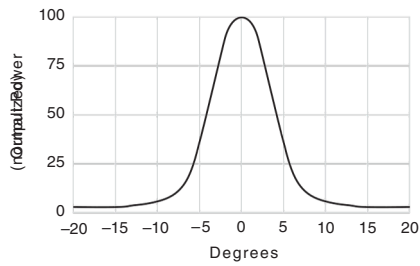
LR 100



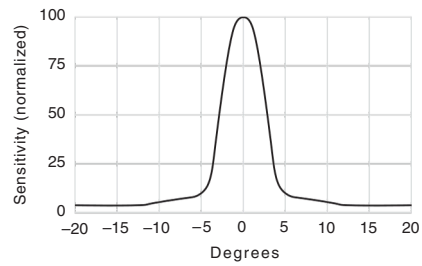
LT 110



LR 110



LT 120



LR 120

Telco reserves the right to change specifications without notice.

