

A large, solid blue rectangle occupies the left and center portions of the page. On the right side, there are several thick, dark green lines. One line runs horizontally across the top. Another line curves downwards from the top right, forming a large, open loop. A third line continues from the bottom of the first loop, curving back towards the right edge of the page.

## SPACEMASTER SERIES

True to its original concept, the SpaceMaster series is diverse in every sense of the word. There is a sensor suitable for every industry out there. And this can easily be justified by the thousands of sites where these infrared sensors operate relentlessly and problem-free day-after-day. That's the only way it should be.



**Description**

- Operation mode and max sensing range:  
Thru-beam: 1-15 m
- Cable or plug connection
- Sensitivity adjustment via control input
- Wide variety of housings
- Power and output indicator
- High tolerance to hostile environments
- 10-30 V dc supply voltage
- 3 wire, NPN or PNP transistor output
- Test input



The 3000 series consists of a self-contained transmitter SMT, and a receiver SMR, which are to be used in thru-beam mode. The complete series is available in a wide range of housings with either cable or plug connection.

The SMR is supplied with a 10-30 V dc supply voltage with a 3 wire, NPN or PNP transistor output with a choice between light or dark function.

The control input in the SMT may be used for either disabling or enabling the transmitting power temporarily for test purpose, multiplexing applications or as a gradual regulation of the transmitting power level.

Both the transmitter and receiver are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

Technical Data						
	SMT			SMR		
	3000C	3012C	3000HC	3x06	3x12	3x15
Supply voltage	10-30 V dc					
Voltage ripple	15 %					
Reverse polarity protected	Yes					
Short circuit protected	-			Yes		
Current consumption	Max. 30 mA			Max. 8 mA		
Maximum output load	-			100 mA		
Maximum residual voltage	-			2,5 V		
Maximum operation frequency	-			> 90 Hz		> 40 Hz
Response time t <sub>ON</sub> / t <sub>OFF</sub>	-			< 4 ms / < 6 ms		< 13 ms / < 6 ms
Power on indicator	Green LED			-		
Output indicator	-			Yellow LED		
Hysteresis	-			Approx. 25 %		Approx. 30 %
Light source	Infrared (880 nm)			-		
Opening angle	-			+/- 7°	+/- 3°	+/- 7°
Emission angle	+/- 10°	+/- 5°	+/- 12°	-		
Housing material	Sensor housing	Nickel Plated Brass or Plastic				
	Front lens	Polycarbonate				
Cable, PVC Ø 3,4 mm	3 x 0,14 mm <sup>2</sup>					

Environmental Data					
	SMT		SMR		
			3x06	3x12	3x15
Vibration	10-55 Hz, 0,5 mm				
Shock	30 g				
Light immunity, @ 5° incidence	-		35 000 lux	12 000 lux	35 000 lux
Temperature, operation	-20 to +50 °C				
Temperature, storage	-40 to +80 °C				
Sealing class	IP 67				
Approvals	CE				

Available Types

	Type	Control Feature	Output	Connection		5 m cable	3 pin, M8 plug	4 pin, M12 plug	Range
				Housing Material	Housing Type				
Transmitter	3000C	Adjustable range and test input	-	Polycarbonate	Ø10	SMT 3000C AP 5	SMT 3000C AP T3	-	1-6 m
					M12 x 1	SMT 3000C TP 5	SMT 3000C TP T3	-	
				Nickel Plated Brass		SMT 3000C TB 5	SMT 3000C TB T3	SMT 3000C TB J	
				Polyester	□ 9,5 x 11,5	SMT 3000C SG 5 <sup>1</sup>	SMT 3000C SG T3	-	
				Polycarbonate	Ø12,7 Snap	SMT 3000C S30 5 <sup>1</sup>	-	-	
M18 x 1	SMT 3000C TP18 5	-	SMT 3000C TP18 J						

Receiver	3006	-	NPN LO (NC)	Polycarbonate	Ø10	SMR 3006 AP 5	SMR 3006 AP T3	-	6 m
					M12 x 1	SMR 3006 TP 5	SMR 3006 TP T3	-	
				Nickel Plated Brass		SMR 3006 TB 5	SMR 3006 TB T3	SMR 3006 TB J	
				Polyester	□ 9,5 x 11,5	SMR 3006 SG 5 <sup>1</sup>	SMR 3006 SG T3	-	
				Polycarbonate	Ø12,7 Snap	SMR 3006 S30 5 <sup>1</sup>	-	-	
	M18 x 1		SMR 3006 TP18 5		-	SMR 3006 TP18 J			
	3106		Polycarbonate	Ø10	SMR 3106 AP 5	SMR 3106 AP T3	-		
				M12 x 1	SMR 3106 TP 5	SMR 3106 TP T3	-		
			Nickel Plated Brass		SMR 3106 TB 5	SMR 3106 TB T3	SMR 3106 TB J		
			Polyester	□ 9,5 x 11,5	SMR 3106 SG 5 <sup>1</sup>	SMR 3106 SG T3	-		
			Polycarbonate	Ø12,7 Snap	SMR 3106 S30 5 <sup>1</sup>	-	-		
	M18 x 1			SMR 3106 TP18 5	-	SMR 3106 TP18 J			
	3206		Polycarbonate	Ø10	SMR 3206 AP 5	SMR 3206 AP T3	-		
				M12 x 1	SMR 3206 TP 5	SMR 3206 TP T3	-		
			Nickel Plated Brass		SMR 3206 TB 5	SMR 3206 TB T3	SMR 3206 TB J		
			Polyester	□ 9,5 x 11,5	SMR 3206 SG 5 <sup>1</sup>	SMR 3206 SG T3	-		
Polycarbonate		Ø12,7 Snap	SMR 3206 S30 5 <sup>1</sup>	-	-				
	M18 x 1	SMR 3206 TP18 5	-	SMR 3206 TP18 J					
3306	Polycarbonate	Ø10	SMR 3306 AP 5	SMR 3306 AP T3	-				
		M12 x 1	SMR 3306 TP 5	SMR 3306 TP T3	-				
	Nickel Plated Brass		SMR 3306 TB 5	SMR 3306 TB T3	SMR 3306 TB J				
	Polyester	□ 9,5 x 11,5	SMR 3306 SG 5 <sup>1</sup>	SMR 3306 SG T3	-				
	Polycarbonate	Ø12,7 Snap	SMR 3306 S30 5 <sup>1</sup>	-	-				
M18 x 1		SMR 3306 TP18 5	-	SMR 3306 TP18 J					

Note: Sensors marked <sup>1</sup> do not have power on or output indicators incorporated.

Transmitter	3012C	Adjustable range and test input	-	Polycarbonate	Ø10	SMT 3012C AP 5	SMT 3012C AP T3	-	2-12 m
					M12 x 1	SMT 3012C TP 5	SMT 3012C TP T3	-	
				Nickel Plated Brass		SMT 3012C TB 5	SMT 3012C TB T3	SMT 3012C TB J	

Receiver	3012	-	NPN LO (NC)	Polycarbonate	Ø10	SMR 3012 AP 5	SMR 3012 AP T3	-	12 m
					M12 x 1	SMR 3012 TP 5	SMR 3012 TP T3	-	
	Nickel Plated Brass			SMR 3012 TB 5	SMR 3012 TB T3	SMR 3012 TB J			
	3112		NPN DO (NO)	Polycarbonate	Ø10	SMR 3112 AP 5	SMR 3112 AP T3	-	
					M12 x 1	SMR 3112 TP 5	SMR 3112 TP T3	-	
	Nickel Plated Brass			SMR 3112 TB 5	SMR 3112 TB T3	SMR 3112 TB J			
	3212		PNP LO (NC)	Polycarbonate	Ø10	SMR 3212 AP 5	SMR 3212 AP T3	-	
					M12 x 1	SMR 3212 TP 5	SMR 3212 TP T3	-	
	Nickel Plated Brass			SMR 3212 TB 5	SMR 3212 TB T3	SMR 3212 TB J			
	3312		PNP DO (NO)	Polycarbonate	Ø10	SMR 3312 AP 5	SMR 3312 AP T3	-	
M12 x 1		SMR 3312 TP 5			SMR 3312 TP T3	-			
Nickel Plated Brass		SMR 3312 TB 5	SMR 3312 TB T3	SMR 3312 TB J					

Available Types

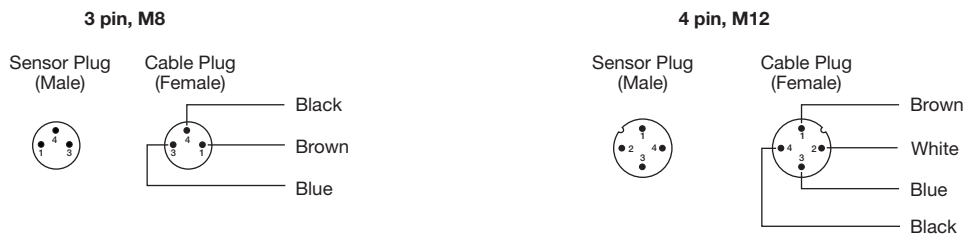
	Type	Control Feature	Output	Connection		5 m cable	3 pin, M8 plug	4 pin, M12 plug	Range
				Housing Material	Housing Type				
Transmitter	3000HC	Adjustable range and test input	-	Polycarbonate	Ø10	SMT 3000HC AP 5	SMT 3000HC AP T3	-	2-15 m
					M12 x 1	SMT 3000HC TP 5	SMT 3000HC TP T3	-	
				Nickel Plated Brass		SMT 3000HC TB 5	SMT 3000HC TB T3	SMT 3000HC TB J	
				Polyester	□ 9,5 x 11,5	SMT 3000HC SG 5 <sup>1</sup>	SMT 3000HC SG T3	-	
				Polycarbonate	Ø12,7 Snap	SMT 3000HC S30 5 <sup>1</sup>	-	-	
			M18 x 1		SMT 3000HC TP18 5	-	SMT 3000HC TP18 J		

Receiver	3015	-	NPN LO (NC)	Polycarbonate	Ø10	SMR 3015 AP 5	SMR 3015 AP T3	-	15 m
				Nickel Plated Brass	M12 x 1	SMR 3015 TP 5	SMR 3015 TP T3	-	
					Polyester	□ 9,5 x 11,5	SMR 3015 TB 5	SMR 3015 TB T3	
				Polycarbonate	Ø12,7 Snap	SMR 3015 SG 5 <sup>1</sup>	SMR 3015 SG T3	-	
					M18 x 1	SMR 3015 S30 5 <sup>1</sup>	-	-	
	3115	-	NPN DO (NO)	Polycarbonate	Ø10	SMR 3115 AP 5	SMR 3115 AP T3	-	
				Nickel Plated Brass	M12 x 1	SMR 3115 TP 5	SMR 3115 TP T3	-	
					Polyester	□ 9,5 x 11,5	SMR 3115 TB 5	SMR 3115 TB T3	
				Polycarbonate	Ø12,7 Snap	SMR 3115 SG 5 <sup>1</sup>	SMR 3115 SG T3	-	
					M18 x 1	SMR 3115 S30 5 <sup>1</sup>	-	-	
	3215	-	PNP LO (NC)	Polycarbonate	Ø10	SMR 3215 AP 5	SMR 3215 AP T3	-	
				Nickel Plated Brass	M12 x 1	SMR 3215 TP 5	SMR 3215 TP T3	-	
					Polyester	□ 9,5 x 11,5	SMR 3215 TB 5	SMR 3215 TB T3	
				Polycarbonate	Ø12,7 Snap	SMR 3215 SG 5 <sup>1</sup>	SMR 3215 SG T3	-	
					M18 x 1	SMR 3215 S30 5 <sup>1</sup>	-	-	
	3315	-	PNP DO (NO)	Polycarbonate	Ø10	SMR 3315 AP 5	SMR 3315 AP T3	-	
				Nickel Plated Brass	M12 x 1	SMR 3315 TP 5	SMR 3315 TP T3	-	
					Polyester	□ 9,5 x 11,5	SMR 3315 TB 5	SMR 3315 TB T3	
				Polycarbonate	Ø12,7 Snap	SMR 3315 SG 5 <sup>1</sup>	SMR 3315 SG T3	-	
					M18 x 1	SMR 3315 S30 5 <sup>1</sup>	-	-	

Note: Sensors marked <sup>1</sup> do not have power on or output indicators incorporated.

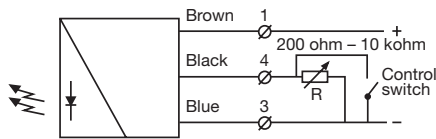
Connections

	Cable	M8 Plug / Cable	M12 Plug / Cable
Supply +	Brown	Pin 1 / Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue	Pin 3 / Blue
SMT control input	Black	Pin 4 / Black	Pin 4 / Black
SMR output	Black	Pin 4 / Black	Pin 4 / Black

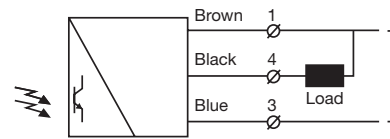


Refer to page 161 for extension cables

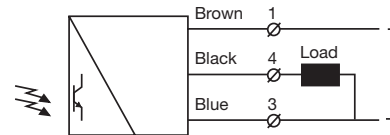
Wiring Diagrams



**SMT 30xxC**  
Variable range and ON/OFF switch  
for transmitting power

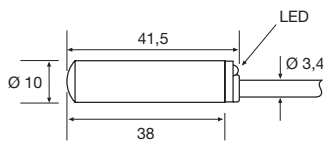


**SMR 30xx / 31xx**

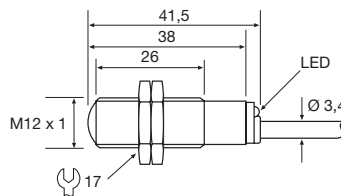


**SMR 32xx / 33xx**

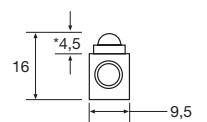
Dimensions and Descriptions



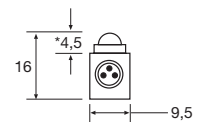
**AP 5**



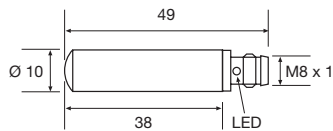
**TP/TB 5**



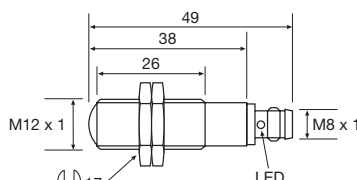
**SG 5**



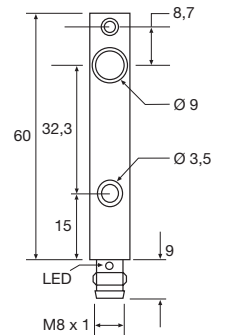
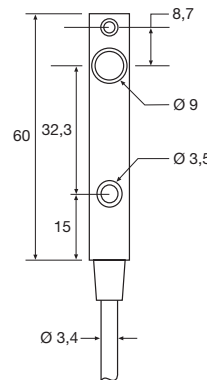
**SG T3**



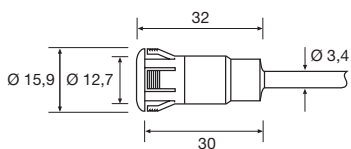
**AP T3**



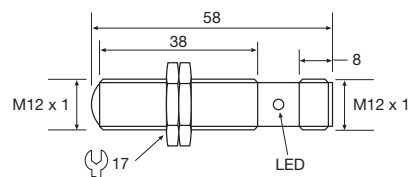
**TP/TB T3**



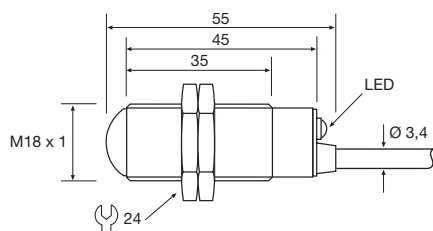
\* SMT 3000C: 2,7



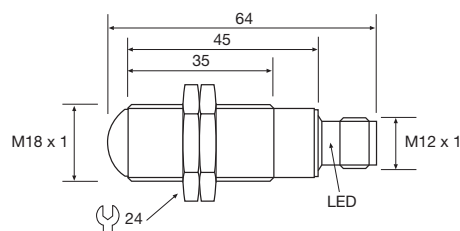
**S30 5**



**TB J**



**TP18 5**

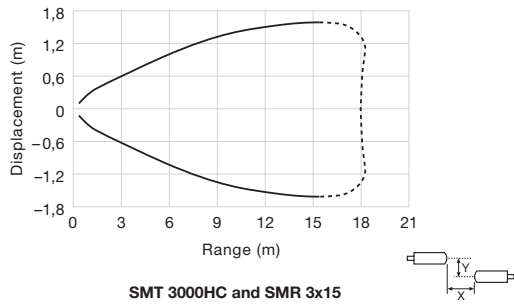
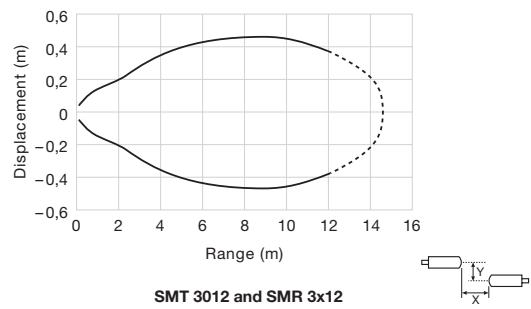
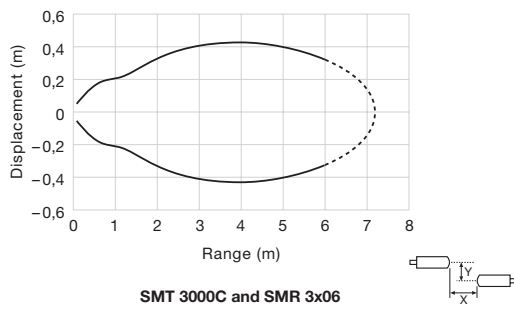


**TP18 J**

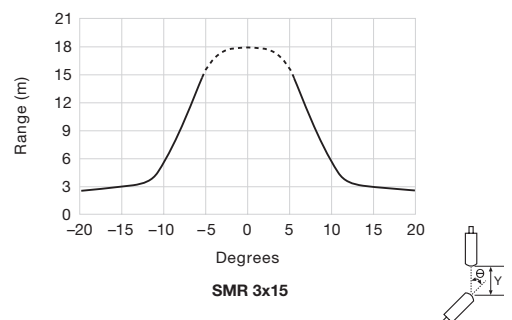
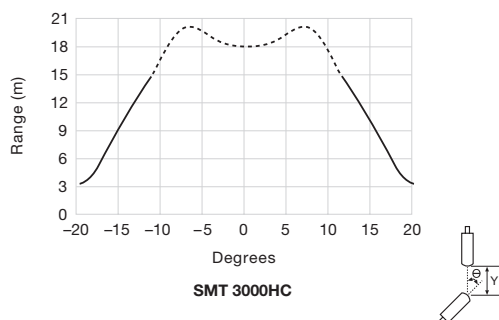
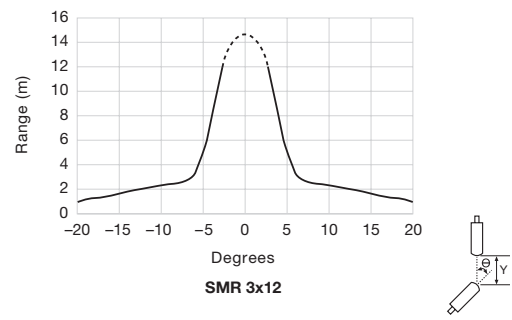
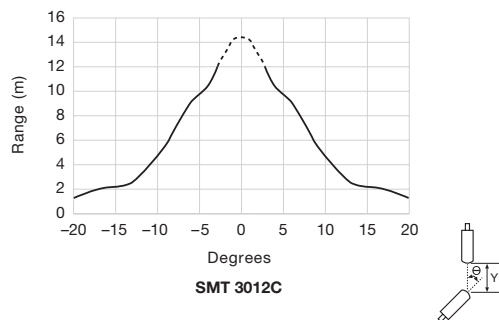
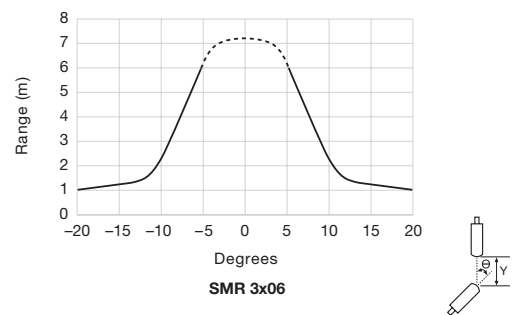
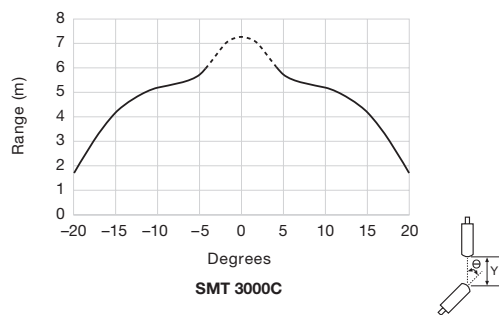
(Units in mm)

Sensing Characteristics

Parallel Displacement



Angular Displacement



Telco reserves the right to change specifications without notice.

**Description**

- Operation mode and max sensing range:  
Thru-beam: 1-6 m
- Cable or plug connection
- Sensitivity adjustment via control input
- Wide variety of housings
- Power and output indicators
- High tolerance to hostile environments
- 10-32 V dc supply voltage
- 3 wire, NPN or PNP output or  
4 wire, NPN/PNP opto isolated output
- 5 or 0,5 ms response time
- Low current consumption
- Test input



The 6000 series consists of a self-contained transmitter SMT, and a receiver SMR, which are to be used in thru-beam mode. The complete series is available in a wide range of housings with either plug or cable connection.

The SMR is supplied with a 10-32 V dc supply voltage with either a 3 wire, NPN or PNP or as a 4 wire, NPN/PNP opto-isolated transistor output with a choice between light or dark function. The SMR is available with either a 0,5 ms response time and a 2 metre range, or with a 5 ms

response time and a 6 metre range. The control input in the SMT may be used for either disabling or enabling the transmitting power temporarily for test purpose, multiplexing applications or as a gradual regulation of the transmitting power level.

Both the transmitter and receiver are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

**Technical Data**

		SMT	SMR	
			6x02	6x06
Supply voltage			10-32 V dc	
Voltage ripple			15 %	
Reverse polarity protected			Yes	
Short circuit protected		-	Yes	
Current consumption			max. 320 mW	
Maximum output load		-	100 mA	
Maximum residual voltage		-	2,5 V	
Maximum operation frequency		-	1000 Hz	100 Hz
Response time t <sub>ON</sub> / t <sub>OFF</sub>		-	0,5 ms / 0,5 ms	5 ms / 5 ms
Power on indicator		Green LED	-	
Output indicator		-	Yellow LED	
Hysteresis		-	Approx. 30%	
Light source		Infrared (880 nm)	-	
Opening angle		-	+/- 6°	
Emission angle		+/- 10°	-	
Housing material	Sensor housing	Stainless Steel (AISI 316 / 1.4401) or Plastic		
	Front lens	Polycarbonate		
Cable, PVC Ø 4,0 mm		3 x 0,14 mm <sup>2</sup>		



**Environmental Data**

	SMT	SMR
Vibration		10-55 Hz, 0,5 mm
Shock		30 g
Light immunity, @ 5° incidence	-	> 50 000 lux
Temperature, operation		-20 to +60 °C
Temperature, storage		-40 to +80 °C
Sealing class		IP 67
Approvals		CE

**Available Types**

	Type	Control Feature	Output	Connection		5 m cable	3 pin, M8 plug	4 pin, M8 plug	4 pin, M12 plug	Range	
				Housing Material	Housing Type						Order Reference
<b>Transmitter</b>	<b>6000</b>	Adjustable range and test input	-	Polycarbonate	Ø10	<b>SMT 6000 AP 5</b>	<b>SMT 6000 AP T3</b>	-	-	1-6 m	
					M12 x 1	<b>SMT 6000 TP 5</b>	<b>SMT 6000 TP T3</b>	-	-		
				Stainless Steel	Ø10	<b>SMT 6000 AS 5</b>	<b>SMT 6000 AS T3</b>	<b>SMT 6000 AS T4</b>	-		-
					M12 x 1	<b>SMT 6000 TS 5</b>	<b>SMT 6000 TS T3</b>	<b>SMT 6000 TS T4</b>	<b>SMT 6000 TS J</b>		-
Polyester	□ 9,5 x 11,5	<b>SMT 6000 SG 5<sup>1</sup></b>	<b>SMT 6000 SG T3</b>	-	-	-					

<b>Receiver</b>	<b>6006</b>	-	NPN LO (NC)	Polycarbonate	Ø10	<b>SMR 6006 AP 5</b>	<b>SMR 6006 AP T3</b>	-	-	6 m
					M12 x 1	<b>SMR 6006 TP 5</b>	<b>SMR 6006 TP T3</b>	-	-	
				Stainless Steel	Ø10	<b>SMR 6006 AS 5</b>	<b>SMR 6006 AS T3</b>	-	-	
					M12 x 1	<b>SMR 6006 TS 5</b>	<b>SMR 6006 TS T3</b>	-	<b>SMR 6006 TS J</b>	
	Polyester	□ 9,5 x 11,5	<b>SMR 6006 SG 5<sup>1</sup></b>	<b>SMR 6006 SG T3</b>	-	-				
	<b>6106</b>	-	NPN DO (NO)	Polycarbonate	Ø10	<b>SMR 6106 AP 5</b>	<b>SMR 6106 AP T3</b>	-	-	
					M12 x 1	<b>SMR 6106 TP 5</b>	<b>SMR 6106 TP T3</b>	-	-	
				Stainless Steel	Ø10	<b>SMR 6106 AS 5</b>	<b>SMR 6106 AS T3</b>	-	-	
					M12 x 1	<b>SMR 6106 TS 5</b>	<b>SMR 6106 TS T3</b>	-	<b>SMR 6106 TS J</b>	
	Polyester	□ 9,5 x 11,5	<b>SMR 6106 SG 5<sup>1</sup></b>	<b>SMR 6106 SG T3</b>	-	-				
	<b>6206</b>	-	PNP LO (NC)	Polycarbonate	Ø10	<b>SMR 6206 AP 5</b>	<b>SMR 6206 AP T3</b>	-	-	
					M12 x 1	<b>SMR 6206 TP 5</b>	<b>SMR 6206 TP T3</b>	-	-	
				Stainless Steel	Ø10	<b>SMR 6206 AS 5</b>	<b>SMR 6206 AS T3</b>	-	-	
					M12 x 1	<b>SMR 6206 TS 5</b>	<b>SMR 6206 TS T3</b>	-	<b>SMR 6206 TS J</b>	
	Polyester	□ 9,5 x 11,5	<b>SMR 6206 SG 5<sup>1</sup></b>	<b>SMR 6206 SG T3</b>	-	-				
	<b>6306</b>	-	PNP DO (NO)	Polycarbonate	Ø10	<b>SMR 6306 AP 5</b>	<b>SMR 6306 AP T3</b>	-	-	
					M12 x 1	<b>SMR 6306 TP 5</b>	<b>SMR 6306 TP T3</b>	-	-	
				Stainless Steel	Ø10	<b>SMR 6306 AS 5</b>	<b>SMR 6306 AS T3</b>	-	-	
					M12 x 1	<b>SMR 6306 TS 5</b>	<b>SMR 6306 TS T3</b>	-	<b>SMR 6306 TS J</b>	
	Polyester	□ 9,5 x 11,5	<b>SMR 6306 SG 5<sup>1</sup></b>	<b>SMR 6306 SG T3</b>	-	-				
<b>6406</b>	-	NPN/PNP DO (NO)	Stainless Steel	Ø10	-	-	<b>SMR 6406 AS T4</b>	-		
				M12 x 1	-	-	<b>SMR 6406 TS T4</b>	<b>SMR 6406 TS J</b>		
<b>6506</b>	-	NPN/PNP LO (NC)	Stainless Steel	Ø10	-	-	<b>SMR 6506 AS T4</b>	-		
				M12 x 1	-	-	<b>SMR 6506 TS T4</b>	<b>SMR 6506 TS J</b>		

Note: Sensors marked <sup>1</sup> do not have power on or output indicators incorporated.

Available Types

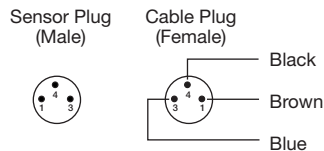
	Type	Control Feature	Output	Connection		5m cable	3 pin, M8 plug	4 pin, M8 plug	4 pin, M12 plug	Range		
				Housing Material	Housing Type						Order Reference	
Receiver	6002		NPN LO (NC)	Polycarbonate	Ø10	SMR 6002 AP 5	SMR 6002 AP T3	-	-	2 m		
					M12 x 1	SMR 6002 TP 5	SMR 6002 TP T3	-	-			
					Stainless Steel	Ø10	SMR 6002 AS 5	SMR 6002 AS T3	-		-	
						M12 x 1	SMR 6002 TS 5	SMR 6002 TS T3	-		SMR 6002 TS J	
				Polyester	□ 9,5 x 11,5	SMR 6002 SG 5 <sup>1</sup>	SMR 6002 SG T3	-	-			
					Polycarbonate	NPN DO (NO)	Ø10	SMR 6102 AP 5	SMR 6102 AP T3		-	-
							M12 x 1	SMR 6102 TP 5	SMR 6102 TP T3		-	-
							Stainless Steel	Ø10	SMR 6102 AS 5		SMR 6102 AS T3	-
	M12 x 1	SMR 6102 TS 5	SMR 6102 TS T3	-				SMR 6102 TS J				
	Polyester	□ 9,5 x 11,5	SMR 6102 SG 5 <sup>1</sup>	SMR 6102 SG T3	-		-					
		Polycarbonate	PNP LO (NC)	Ø10	SMR 6202 AP 5		SMR 6202 AP T3	-	-			
				M12 x 1	SMR 6202 TP 5		SMR 6202 TP T3	-	-			
				Stainless Steel	Ø10		SMR 6202 AS 5	SMR 6202 AS T3	-	-		
	M12 x 1				SMR 6202 TS 5	SMR 6202 TS T3	-	SMR 6202 TS J				
	Polyester	□ 9,5 x 11,5		SMR 6202 SG 5 <sup>1</sup>	SMR 6202 SG T3	-	-					
		Polycarbonate		PNP DO (NO)	Ø10	SMR 6302 AP 5	SMR 6302 AP T3	-	-			
					M12 x 1	SMR 6302 TP 5	SMR 6302 TP T3	-	-			
					Stainless Steel	Ø10	SMR 6302 AS 5	SMR 6302 AS T3	-	-		
	M12 x 1		SMR 6302 TS 5			SMR 6302 TS T3	-	SMR 6302 TS J				
	Polyester	□ 9,5 x 11,5	SMR 6302 SG 5 <sup>1</sup>		SMR 6302 SG T3	-	-					
Polycarbonate		NPN/PNP DO (NO)	Ø10		-	-	SMR 6402 AS T4	-				
			M12 x 1		-	-	SMR 6402 TS T4	SMR 6402 TS J				
Stainless Steel			Ø10		-	-	SMR 6502 AS T4	-				
	M12 x 1		-	-	SMR 6502 TS T4	SMR 6502 TS J						

Note: Sensors marked <sup>1</sup> do not have power on or output indicators incorporated.

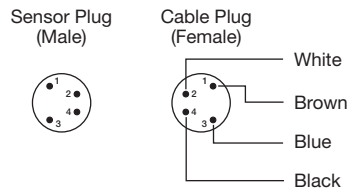
Connections

	Cable	M8 Plug / Cable	M12 Plug / Cable
Supply +	Brown	Pin 1 / Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue	Pin 3 / Blue
SMT control input	Black	Pin 4 / Black	Pin 4 / Black
SMR output	Black	Pin 4 / Black	Pin 4 / Black
SMR output	White	Pin 2 / White	Pin 2 / White

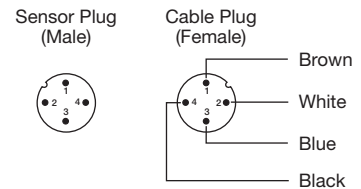
3 pin, M8



4 pin, M8

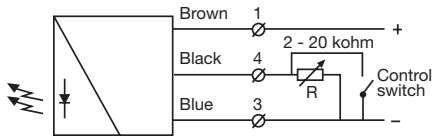


4 pin, M12

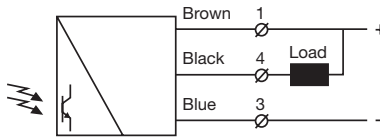


Refer to page 161 for extension cables

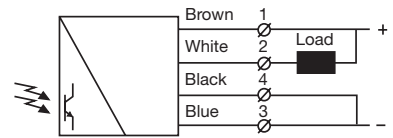
Wiring Diagrams



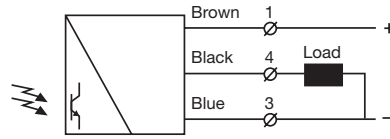
**SMT 6000 1-6 m**  
Variable range and ON/OFF switch for transmitting power



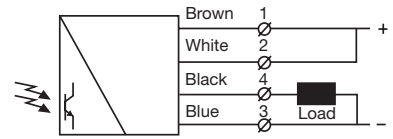
**SMR 600x / 610x**



**SMR 640x / 650x (load as NPN)**

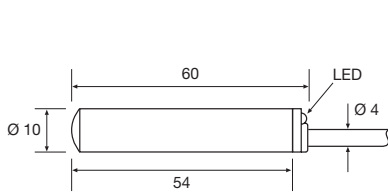


**SMR 620x / 630x**

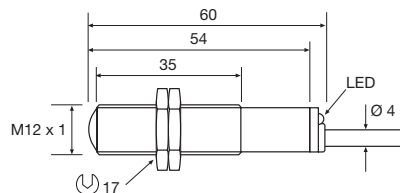


**SMR 640x / 650x (load as PNP)**

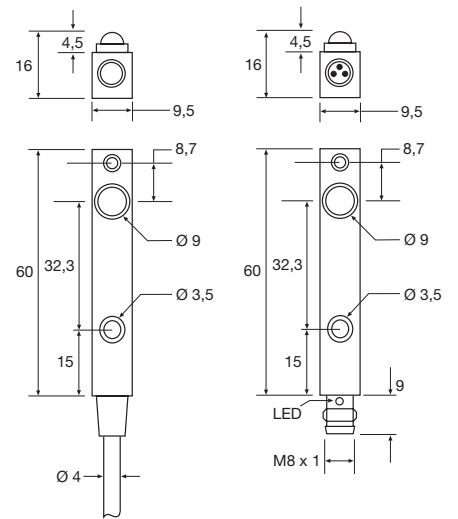
Dimensions and Descriptions



**AP/AS 5**

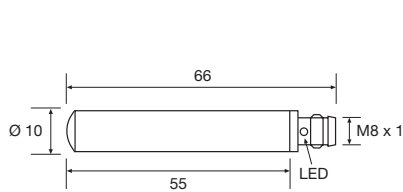


**TP/TS 5**

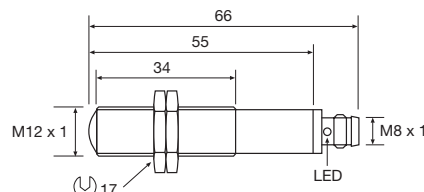


**SG 5**

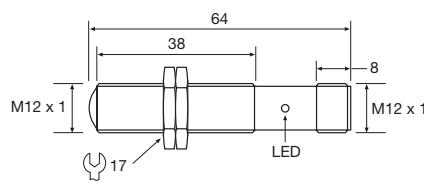
**SG T3**



**AP/AS T3/T4**



**TP/TS T3/T4**

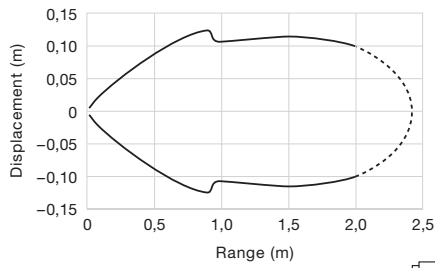


**TS J**

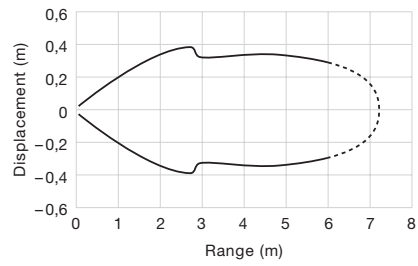
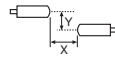
(Units in mm)

Sensing Characteristics

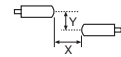
Parallel Displacement



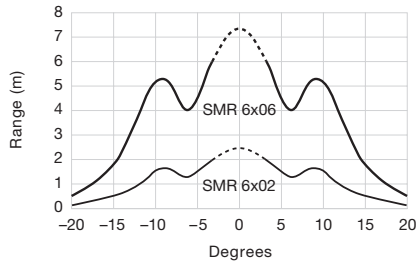
SMT 6000 and SMR 6x02



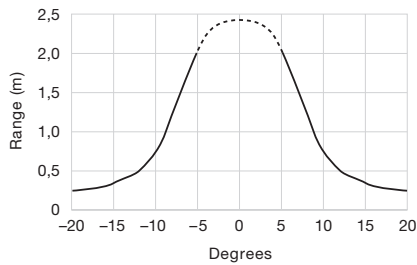
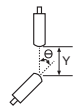
SMT 6000 and SMR 6x06



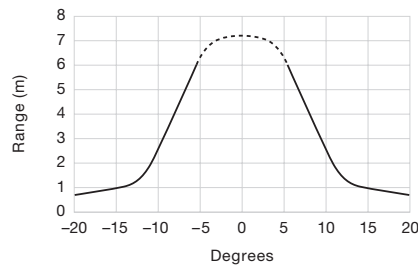
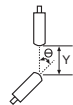
Angular Displacement



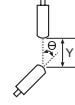
SMT 6000



SMR 6x02



SMR 6x06



Telco reserves the right to change specifications without notice.

**Description**

- Operation mode and max sensing range:  
**Thru-beam:** 0-20 m  
**Diffuse proximity:** 0-0,5 m  
**Retro reflective:** 0-3 m  
**Fibre:** Dependent on fibre optic
- Cable or plug connection
- Sensitivity adjustment via potentiometer
- Switch selectable light or dark function
- Power and output indicators
- High tolerance to hostile environments
- 10-30 V dc supply voltage
- 4 wire, NPN/PNP transistor output or  
 4 wire, ambivalent PNP/PNP transistor output
- Test input



The 7000 series consists of a self-contained transmitter SMT, and a receiver SMR which are to be used in thru-beam mode, an SMP for diffuse proximity, SMRR for retro reflective and an SMPF for use with fibre optic cables. All are offered with sensitivity adjustment via integral potentiometer with either cable or plug connection.

is available with either a 0.5 ms response time and a 7 metre range or with a 2 ms response time and a 20 metre range. The control input in the SMT is intended to be used for disabling or enabling the transmitting power temporarily for test purpose or for multiplexing applications.

The complete series is available either as 4 wire, NPN/PNP transistor output or 4 wire ambivalent PNP/PNP output with a 10-30 V dc supply voltage, both offering switch selectable light or dark function. The SMR

The complete series is protected against reverse polarity of power supplies, control input and output signals. The output is protected against short circuit and inductive loads.

**Technical Data**

	SMT	SMR		SMP	SMPF	SMRR
		7x07	7x20			
Supply voltage	10-30 V dc					
Voltage ripple	15 %					
Reverse polarity protected	Yes					
Short circuit protected	-	Yes				
Current consumption	25 mA	15 mA		20 mA		
Maximum output load	-	120 mA / 30 V dc				
Maximum residual voltage	-	2 V				
Maximum operation frequency	-	1000 Hz	250 Hz			
Response time t <sub>ON</sub> / t <sub>OFF</sub>	-	0,5 ms / 0,5 ms	2 ms / 2 ms			
Power on indicator	Green LED					
Output indicator	-	Yellow LED				
Hysteresis	-	Approx. 15-20 %		Approx. 3-10 %		
Light source	Infrared (880 nm)	-		Infrared (880 nm)		
Opening angle	-	+/- 6°		+/- 4°		+/- 3,5°
Emission angle	+/- 2°	-				
Housing material	Sensor housing	Stainless Steel (AISI 316 / 1.4401) or Polycarbonate				
	Front lens	Polycarbonate				
Cable, PVC Ø 4,0 mm	3 x 0,14 mm <sup>2</sup>	4 x 0,14 mm <sup>2</sup>				

**Environmental Data**

	SMT	SMR		SMP	SMPF	SMRR
		7x07	7x20			
Vibration	10-55 Hz, 0,5 mm					
Shock	30 g					
Light immunity	@ 5° incidence	-	> 20 000 lux	-		
	@ 15° incidence	-	-	> 40 000 lux	> 25 000 lux	
Temperature, operation	-20 to +60 °C					
Temperature, storage	-40 to +80 °C					
Sealing class	IP 67					
Approvals	CE					

**Available Types**

	Type	Power Supply	Control Feature	Output	Connection		5 m cable	4 pin, M8 plug	4 pin, M12 plug	Range
					Housing Material	Housing Type				
Transmitter	7000	10-30 V dc	Test Input	-	Polycarbonate	M18 x 1	SMT 7000 TP 5	SMT 7000 TP T4	SMT 7000 TP J	20 m
					Stainless Steel		SMT 7000 TS 5	SMT 7000 TS T4	SMT 7000 TS J	

Receiver	7607	10-30 V dc	Sensitivity pot. and light/dark switch	NPN/PNP	Polycarbonate	M18 x 1	SMR 7607 TP 5	SMR 7607 TP T4	SMR 7607 TP J	0-7 m
	7620				Stainless Steel		SMR 7607 TS 5	SMR 7607 TS T4	SMR 7607 TS J	
					7707		Polycarbonate	SMR 7620 TP 5	SMR 7620 TP T4	SMR 7620 TP J
	Stainless Steel						SMR 7620 TS 5	SMR 7620 TS T4	SMR 7620 TS J	
	7720		Sensitivity pot.	PNP/PNP	Polycarbonate		SMR 7707 TP 5	SMR 7707 TP T4	SMR 7707 TP J	0-7 m
					Stainless Steel		SMR 7707 TS 5	SMR 7707 TS T4	SMR 7707 TS J	
					Polycarbonate		SMR 7720 TP 5	SMR 7720 TP T4	SMR 7720 TP J	0-20 m
					Stainless Steel		SMR 7720 TS 5	SMR 7720 TS T4	SMR 7720 TS J	

Proximity	7600	10-30 V dc	Sensitivity pot. and light/dark switch	NPN/PNP	Polycarbonate	M18 x 1	SMP 7600 TP 5	SMP 7600 TP T4	SMP 7600 TP J	0-0,5 m
					Stainless Steel		SMP 7600 TS 5	SMP 7600 TS T4	SMP 7600 TS J	

Fibre Sensor	7600	10-30 V dc	Sensitivity pot. and light/dark switch	NPN/PNP	Polycarbonate	M18 x 1	SMPF 7600 TP 5	SMPF 7600 TP T4	SMPF 7600 TP J	Refer to page 154
					Stainless Steel		SMPF 7600 TS 5	SMPF 7600 TS T4	SMPF 7600 TS J	

Note: Glass fibre optic cable to be ordered separately.

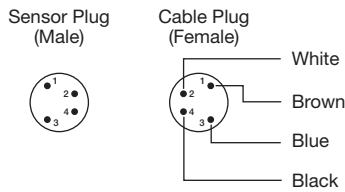
Retro Reflective	7600	10-30 V dc	Sensitivity pot. and light/dark switch	NPN/PNP	Polycarbonate	M18 x 1	SMRR 7600 TP 5	SMRR 7600 TP T4	SMRR 7600 TP J	0-3 m
					Stainless Steel		SMRR 7600 TS 5	SMRR 7600 TS T4	SMRR 7600 TS J	

Note: Reflector to be ordered separately.

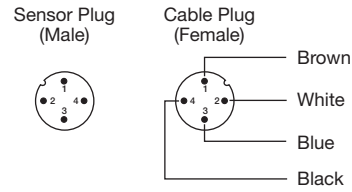
**Connections**

	Cable	M8 Plug / Cable	M12 Plug / Cable
Supply +	Brown	Pin 1 / Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue	Pin 3 / Blue
SMT test input	Black	Pin 4 / Black	Pin 4 / Black
Output	Black	Pin 4 / Black	Pin 4 / Black
Output	White	Pin 2 / White	Pin 2 / White

**4 pin, M8**

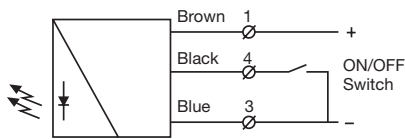


**4 pin, M12**

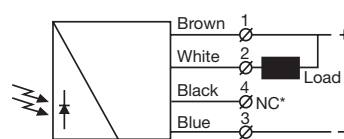


Refer to page 161 for extension cables

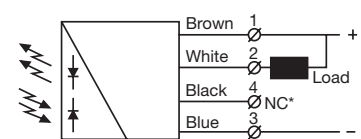
**Wiring Diagrams**



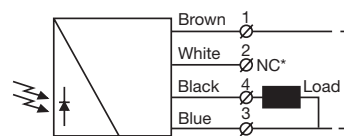
**SMT 7000**



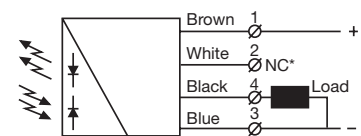
**SMR 76xx (load as NPN)**  
\*Do not connect black wire



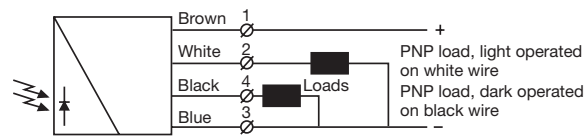
**SMP / SMPF / SMRR 7600 (load as NPN)**  
\*Do not connect black wire



**SMR 76xx (load as PNP)**  
\*Do not connect white wire

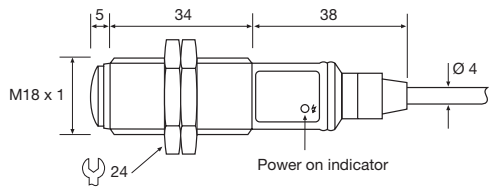


**SMP / SMPF / SMRR 7600 (load as PNP)**  
\*Do not connect white wire

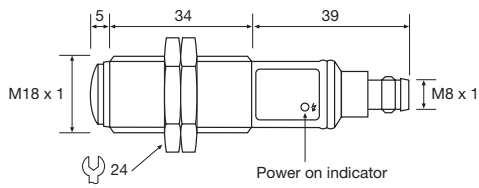


**SMR 77xx**

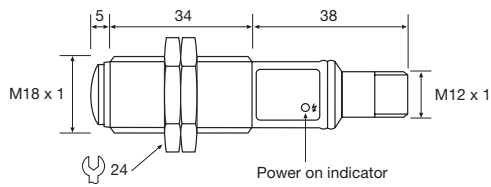
Dimensions and Descriptions



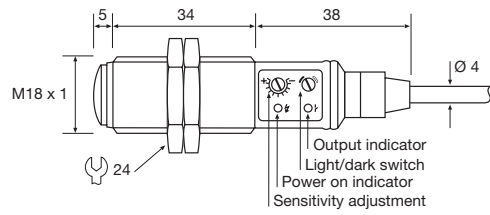
SMT 7000 TP/TS 5



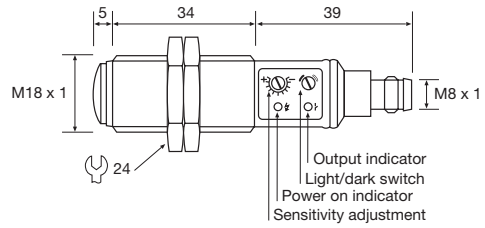
SMT 7000 TP/TS T4



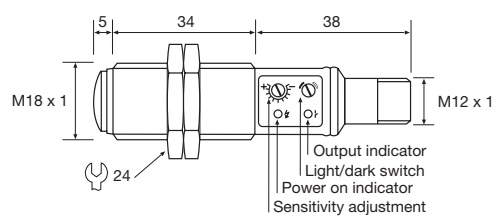
SMT 7000 TP/TS J



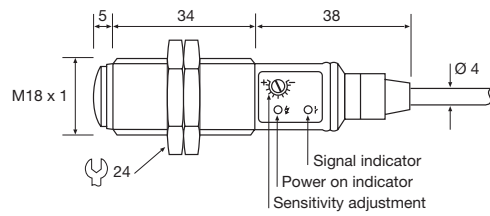
SMR / SMP / SMRR / SMPF\* 76xx TP/TS 5



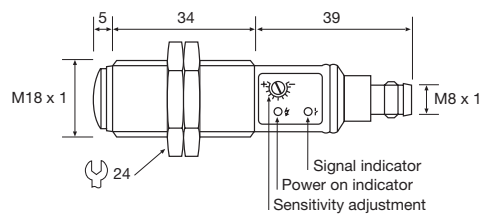
SMR / SMP / SMRR / SMPF\* 76xx TP/TS T4



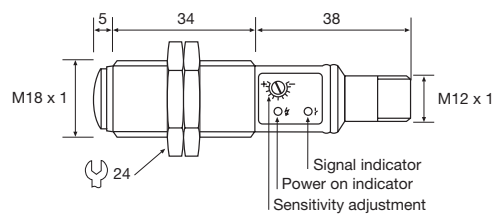
SMR / SMP / SMRR / SMPF\* 76xx TP/TS J



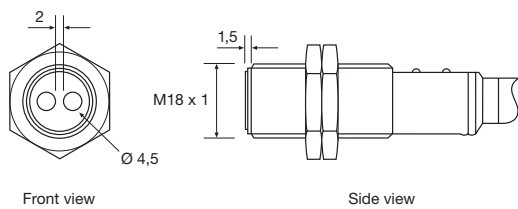
SMR 77xx TP/TS 5



SMR 77xx TP/TS T4



SMR 77xx TP/TS J



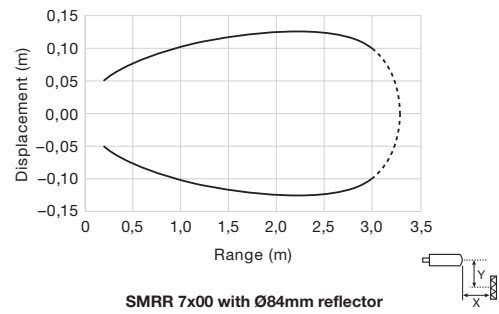
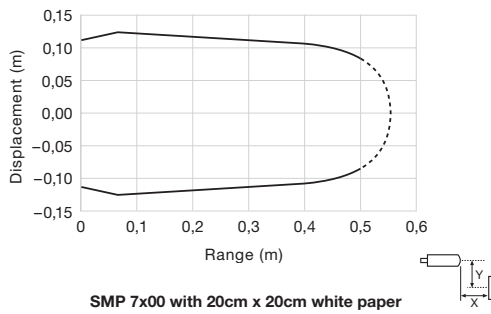
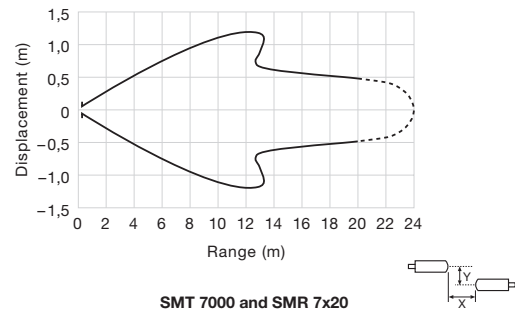
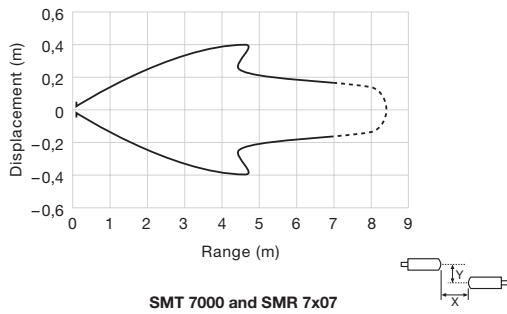
SMPF\*

(Units in mm)

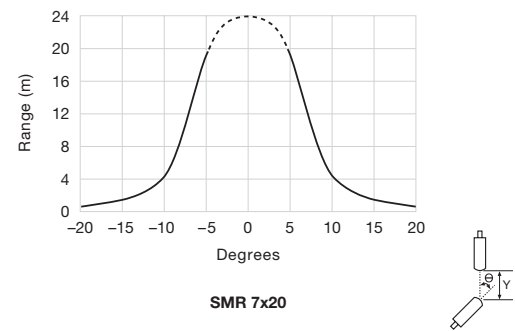
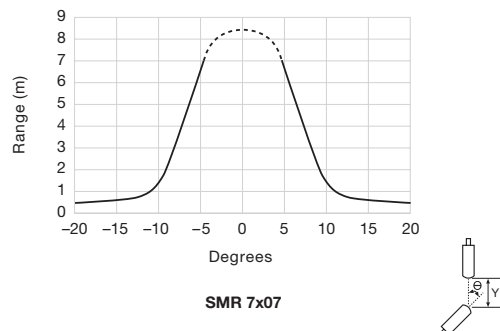
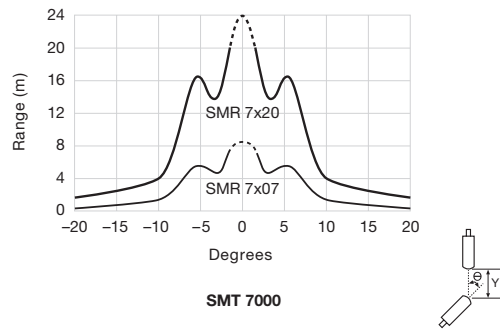


Sensing Characteristics

Parallel Displacement




Angular Displacement



Telco reserves the right to change specifications without notice.

**Description**

- Operation mode and max sensing range:  
**Thru-beam:** 0-20 m  
**Diffuse proximity:** 0-0,5 m  
**Retro reflective:** 0-3 m  
**Fibre:** Dependent on fibre optic
- Cable or plug connection
- Sensitivity adjustment via potentiometer
- Switch selectable light or dark function
- Power and output indicators
- High tolerance to hostile environments
- 10-30 V dc or 20-250 V ac supply voltage
- 3 wire, NPN or PNP transistor output or 2 wire, SCR output
- Test input
- Available with optional  ATEX approval




The 8000 series consists of a self-contained transmitter SMT, and a receiver SMR which are to be used in thru-beam mode, an SMP for diffuse proximity, SMRR for retro reflective and an SMPF for use with fibre optic cables. All are offered with sensitivity adjustment via integral potentiometer with either cable or plug connection.

The complete series is available either as 3 wire, NPN or PNP transistor output with a 10-30 V dc supply voltage, or as 2 wire, SCR output with a

20-250 V ac supply voltage both offering switch selectable light or dark function. The control input in the 10-30 V dc SMT is intended to be used for disabling or enabling the transmitting power temporarily for test purpose or for multiplexing applications.

The dc series is protected against reverse polarity of power supplies, control input and output signals. The output is protected against short circuit and inductive loads.

		Technical Data					
		SMT	SMR		SMP	SMPF	SMRR
			8x20	8x00			
Supply voltage	ac	20-250 V ac	-	20-250 V ac			
	dc	10-30 V dc					
Voltage ripple		15 %					
Reverse polarity protected	dc	Yes					
Short circuit protected	dc	-	Yes				
Current consumption	ac	3 mA	-	2 mA			
	dc	15 mA	5 mA		14 mA		
Maximum output load	ac	-	-	200 mA			
	dc	120 mA @ 30 V dc					
Maximum residual voltage	ac	-	-	8 V			
	dc	1,5 V					
Max. operation frequency	ac	-	-	20 Hz			
	dc	-	100 Hz	250 Hz			
Response time t <sub>ON</sub> / t <sub>OFF</sub>	ac	-	-	25 ms / 25 ms			
	dc	-	5 ms / 5 ms	2 ms / 2 ms			
Power on indicator		Green LED					
Output indicator		-	Yellow LED				
Hysteresis		-	Approx. 10-30 %		Approx. 5-15 %		
Light source		Infrared (880 nm)	-		Infrared (880 nm)		
Opening angle		-	+/- 6°		+/- 4°	+/- 3,5°	
Emission angle		+/- 2°	-				
Housing material	Sensor housing	Stainless Steel (AISI 316 / 1.4401) or Polycarbonate					
	Front lens	Polycarbonate					
Cable, PVC	ac	Ø 5,2 mm, 2 x 0,25 mm <sup>2</sup>					
	dc	Ø 4,0 mm, 3 x 0,14 mm <sup>2</sup>					

Environmental Data						
	SMT	SMR		SMP	SMPF	SMRR
		8x20	8x00			
Vibration		10-55 Hz, 0,5 mm				
Shock		30 g				
Light immunity	@ 5° incidence	-	> 7 000 lux	> 10 000 lux	-	
	@ 15° incidence	-	-		> 40 000 lux	> 25 000 lux
Temperature, operation		-20 to +60 °C				
Temperature, storage		-40 to +80 °C				
Sealing class	ac	IP 60				
	dc	IP 67				
Approvals	ac	CE 				
	dc	CE				

Available Types										
Transmitter	Type	Power Supply	Control Feature	Output	Connection		5 m cable	3 pin, M8 plug	4 pin, M12 plug	Range
					Housing Material	Housing Type				
	8000	10-30 V dc	-	Test Input	-	Polycarbonate	M18 x 1	SMT 8000 PG 5	SMT 8000 PG T3	SMT 8000 PG J
Stainless Steel						SMT 8000 MG 5		SMT 8000 MG T3	SMT 8000 MG J	
20-250 V ac		-	Polycarbonate	SMT 8600 PG 5		-		-	7 m	
			Stainless Steel	SMT 8600 MG 5		-		-		

Receiver	8400	10-30 V dc	Sensitivity pot. and light/dark switch	NPN	Polycarbonate	M18 x 1	SMR 8400 PG 5	SMR 8400 PG T3	SMR 8400 PG J	0-7 m		
					Stainless Steel		SMR 8400 MG 5	SMR 8400 MG T3	SMR 8400 MG J			
	8500			PNP	Polycarbonate		SMR 8500 PG 5	SMR 8500 PG T3	SMR 8500 PG J			
					Stainless Steel		SMR 8500 MG 5	SMR 8500 MG T3	SMR 8500 MG J			
	8420			NPN	Polycarbonate		SMR 8420 PG 5	SMR 8420 PG T3	SMR 8420 PG J	0-20 m		
					Stainless Steel		SMR 8420 MG 5	SMR 8420 MG T3	SMR 8420 MG J			
	8520			PNP	Polycarbonate		SMR 8520 PG 5	SMR 8520 PG T3	SMR 8520 PG J			
					Stainless Steel		SMR 8520 MG 5	SMR 8520 MG T3	SMR 8520 MG J			
	8800			20-250 V ac	Light/dark switch		SCR	Polycarbonate	SMR 8800 PG 5	-	-	7 m
								Stainless Steel	SMR 8800 MG 5	-	-	

Proximity	8400	10-30 V dc	Sensitivity pot. and light/dark switch	NPN	Polycarbonate	M18 x 1	SMP 8400 PG 5	SMP 8400 PG T3	SMP 8400 PG J	0-0,5 m	
					Stainless Steel		SMP 8400 MG 5	SMP 8400 MG T3	SMP 8400 MG J		
	8500			PNP	Polycarbonate		SMP 8500 PG 5	SMP 8500 PG T3	SMP 8500 PG J		
					Stainless Steel		SMP 8500 MG 5	SMP 8500 MG T3	SMP 8500 MG J		
	8800			20-250 V ac	SCR		Polycarbonate	SMP 8800 PG 5	-		-
							Stainless Steel	SMP 8800 MG 5	-		-

Fibre Sensor	8400	10-30 V dc	Sensitivity pot. and light/dark switch	NPN	Polycarbonate	M18 x 1	SMPF 8400 PG 5	SMPF 8400 PG T3	SMPF 8400 PG J	Refer to page 154	
					Stainless Steel		SMPF 8400 MG 5	SMPF 8400 MG T3	SMPF 8400 MG J		
	8500			PNP	Polycarbonate		SMPF 8500 PG 5	SMPF 8500 PG T3	SMPF 8500 PG J		
					Stainless Steel		SMPF 8500 MG 5	SMPF 8500 MG T3	SMPF 8500 MG J		
	8800			20-250 V ac	SCR		Polycarbonate	SMPF 8800 PG 5	-		-
							Stainless Steel	SMPF 8800 MG 5	-		-

Note: Glass fibre optic cable to be ordered separately.

Retro Reflective	8400	10-30 V dc	Sensitivity pot. and light/dark switch	NPN	Polycarbonate	M18 x 1	SMRR 8400 PG 5	SMRR 8400 PG T3	SMRR 8400 PG J	0-3 m	
					Stainless Steel		SMRR 8400 MG 5	SMRR 8400 MG T3	SMRR 8400 MG J		
	8500			PNP	Polycarbonate		SMRR 8500 PG 5	SMRR 8500 PG T3	SMRR 8500 PG J		
					Stainless Steel		SMRR 8500 MG 5	SMRR 8500 MG T3	SMRR 8500 MG J		
	8800			20-250 V ac	SCR		Polycarbonate	SMRR 8800 PG 5	-		-
							Stainless Steel	SMRR 8800 MG 5	-		-

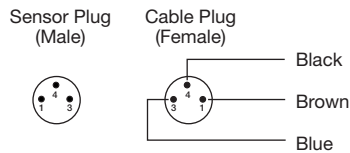
Note: Reflector to be ordered separately.

SM 8000 series with cable connection is available to comply with ATEX  II 3 GD T6 EEx nA II U. Add "/EX" after the series number e.g. SMT 8000/EX PG 5.

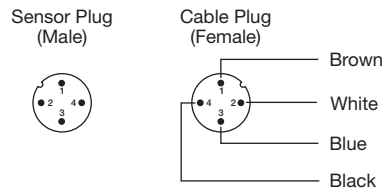
**Connections**

	Cable	M8 Plug / Cable	M12 Plug / Cable
AC supply	Blue & Brown	-	-
Supply +	Brown	Pin 1 / Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue	Pin 3 / Blue
SMT test input	Black	Pin 4 / Black	Pin 4 / Black
Output	Black	Pin 4 / Black	Pin 4 / Black

**3 pin, M8**



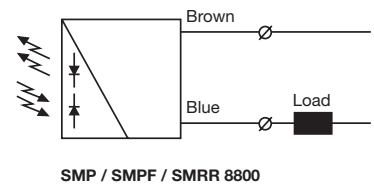
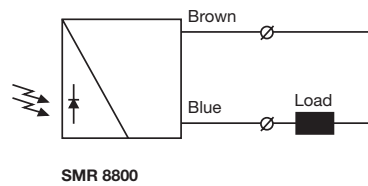
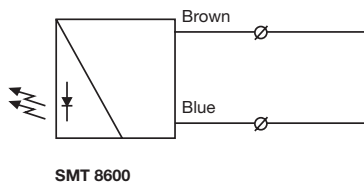
**4 pin, M12**



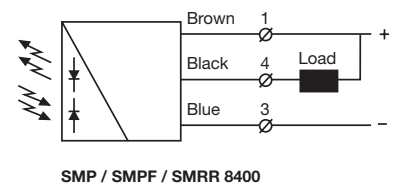
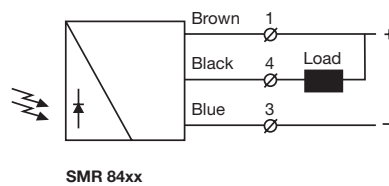
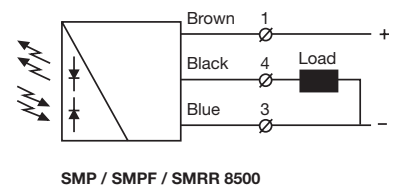
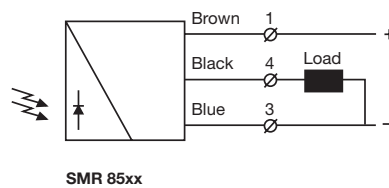
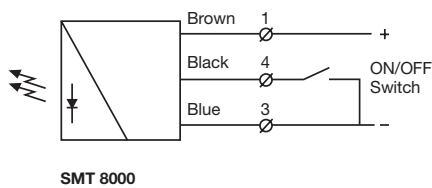
Refer to page 161 for extension cables

**Wiring Diagrams**

**AC Models**

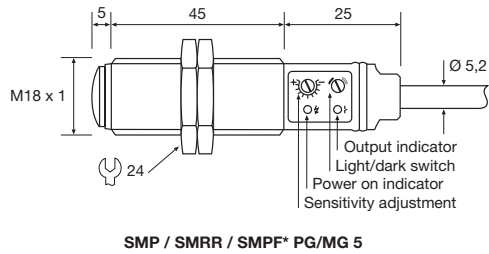
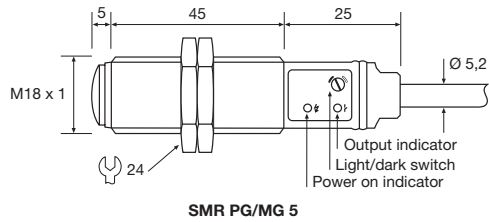
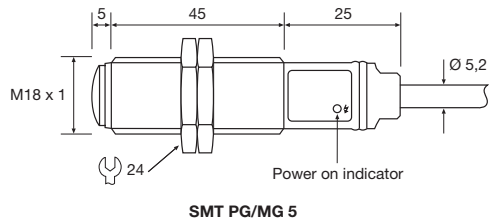


**DC Models**

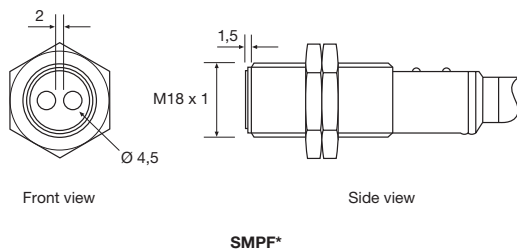
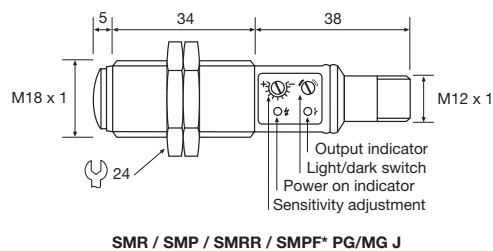
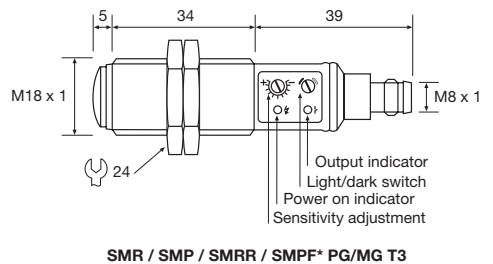
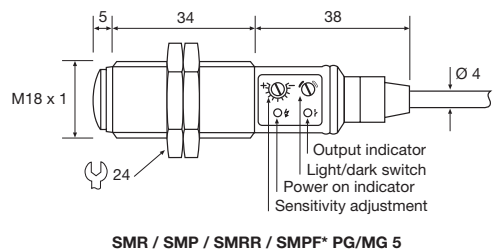
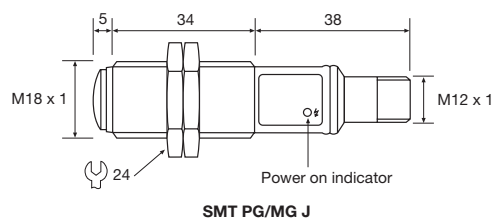
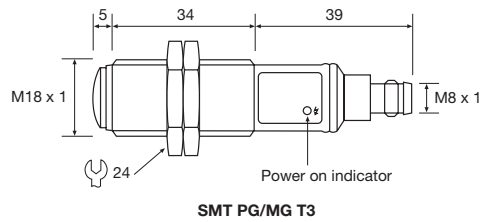
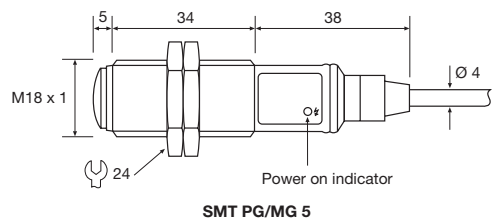


Dimensions and Descriptions

AC Models



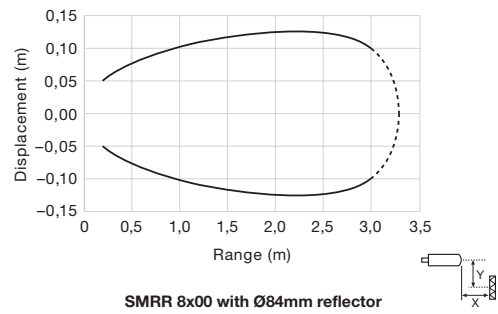
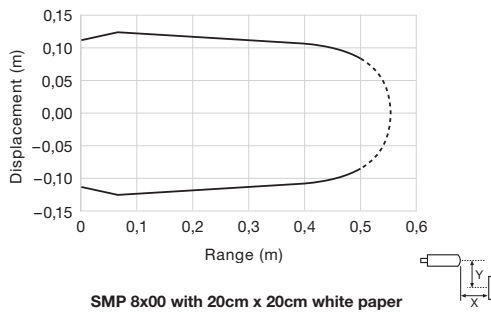
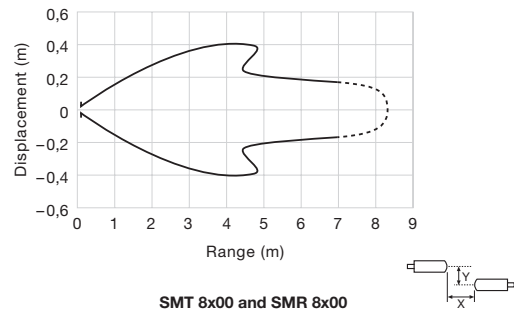
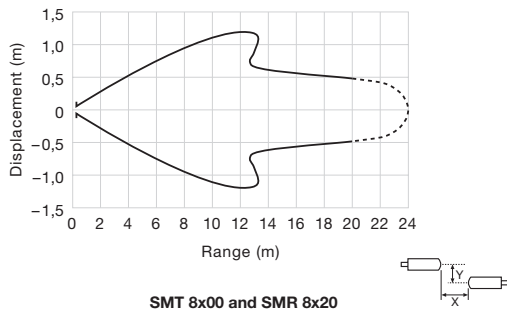
DC Models



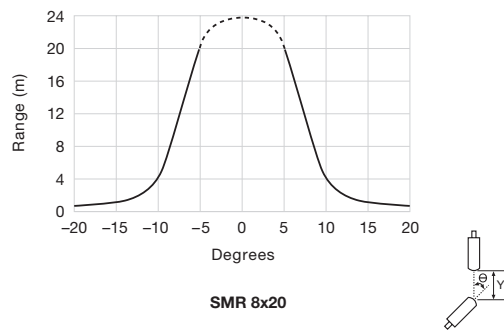
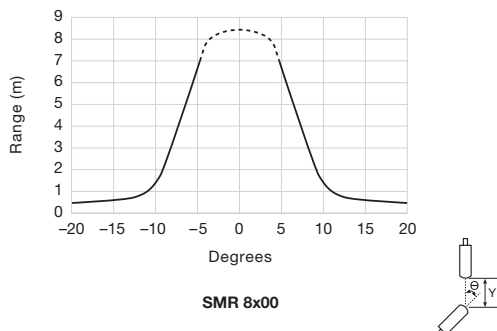
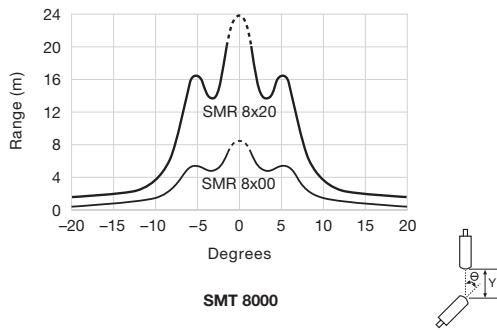
(Units in mm)

Sensing Characteristics

Parallel Displacement



Angular Displacement



Telco reserves the right to change specifications without notice.

**Description**

- Operation mode and max sensing range:  
Thru-beam: 1-70 m
- Cable or plug connection
- Sensitivity adjustment via control input
- Power and output indicators
- High tolerance to hostile environments
- 10-30 V dc supply voltage
- 5 wire, NPN or PNP output
- Test input
- High excess gain
- Optical cross talk elimination of 4 independent sensor channels selectable via wire connection



The SM 9000 series consists of a high-power self-contained transmitter SMT, and receiver SMR, which are to be used in thru-beam mode. The complete series is available in stainless steel or plastic housing with either cable or plug connection.

The complete series is available with a 10-30 V dc supply voltage with a 5 wire, NPN or PNP transistor output with a choice between light or dark function. The control input in the SMT may be used for either disabling or enabling the transmitting power temporarily for test purpose, multiplexing applications or as gradual regulation of the transmitting power level.

The SM 9000 series features cross talk elimination which enables up to 4 individual sensor pairs to operate independently, configurable with the use of a 2-wire channel selection in the SMT and SMR, ensuring that optical cross talk interference between the channels is prevented.

Both the transmitter and receiver are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

Technical Data					
		SMT		SMR	
		9020C	9070C	9x20	9x70
Supply voltage		10-30 V dc			
Voltage ripple		15 %			
Reverse polarity protected		Yes			
Short circuit protected		-		Yes	
Current consumption		Max. 40 mA			
Maximum output load		-		100 mA	
Maximum residual voltage		-		2,5 V	
Maximum operation frequency		-		20 Hz	
Response time t <sub>ON</sub> / t <sub>OFF</sub>		-		25 ms / 25 ms	
Power on indicator		Green LED		-	
Output indicator		-		Yellow LED	
Hysteresis		-		Approx. 20 %	
Transmitter diode		Ga Al As (880 nm)		-	
Opening angle		-		+/- 7°	+/- 3°
Emission angle		+/- 7°	+/- 4°	-	
Housing material	Sensor housing	Stainless Steel (AISI 316 / 1.4401) or Polycarbonate			
	Front lens	Polycarbonate			
Cable, PVC Ø 4,9 mm		5 x 0,14 mm <sup>2</sup>			

**Environmental Data**

	SMT	SMR	
		9x20	9x70
Vibration	10-55 Hz, 0,5 mm		
Shock	30 g		
Light immunity, @ 5° incidence	-	> 10 000 lux	> 20 000 lux
Temperature, operation	-20 to +60 °C		
Temperature, storage	-40 to +80 °C		
Sealing class	IP 69K		
Approvals	CE		

**Note:** Sensors are IP 69K rated if the cable is protected from high-pressure spray.

**Available Types**

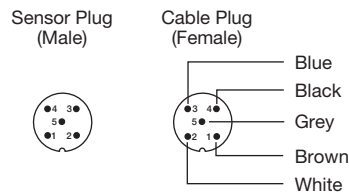
	Type	Control Feature	Output	Connection		5 m cable	15 m cable	0,1 m cable with 5 pin, M12 plug	Range
				Housing Material	Housing Type				
Transmitter	9020C	Adjustable range and test input	-	Polycarbonate	M18 x 1	SMT 9020C TP 5	SMT 9020C TP 15	SMT 9020C TP 0.1-J5	1-20 m
				Stainless Steel		SMT 9020C TS 5	SMT 9020C TS 15	SMT 9020C TS 0.1-J5	
Receiver	9020	-	NPN LO (NC)	Polycarbonate	M18 x 1	SMR 9020 TP 5	SMR 9020 TP 15	SMR 9020 TP 0.1-J5	20 m
				Stainless Steel		SMR 9020 TS 5	SMR 9020 TS 15	SMR 9020 TS 0.1-J5	
	NPN DO (NO)		Polycarbonate	SMR 9120 TP 5		SMR 9120 TP 15	SMR 9120 TP 0.1-J5		
			Stainless Steel	SMR 9120 TS 5		SMR 9120 TS 15	SMR 9120 TS 0.1-J5		
	9220		PNP LO (NC)	Polycarbonate		SMR 9220 TP 5	SMR 9220 TP 15	SMR 9220 TP 0.1-J5	
				Stainless Steel		SMR 9220 TS 5	SMR 9220 TS 15	SMR 9220 TS 0.1-J5	
	9320		PNP DO (NO)	Polycarbonate		SMR 9320 TP 5	SMR 9320 TP 15	SMR 9320 TP 0.1-J5	
				Stainless Steel		SMR 9320 TS 5	SMR 9320 TS 15	SMR 9320 TS 0.1-J5	
Transmitter	9070C	Adjustable range and test input	-	Polycarbonate	M18 x 1	SMT 9070C TP 5	SMT 9070C TP 15	SMT 9070C TP 0.1-J5	1-70 m
				Stainless Steel		SMT 9070C TS 5	SMT 9070C TS 15	SMT 9070C TS 0.1-J5	
Receiver	9070	-	NPN LO (NC)	Polycarbonate	M18 x 1	SMR 9070 TP 5	SMR 9070 TP 15	SMR 9070 TP 0.1-J5	70 m
				Stainless Steel		SMR 9070 TS 5	SMR 9070 TS 15	SMR 9070 TS 0.1-J5	
	NPN DO (NO)		Polycarbonate	SMR 9170 TP 5		SMR 9170 TP 15	SMR 9170 TP 0.1-J5		
			Stainless Steel	SMR 9170 TS 5		SMR 9170 TS 15	SMR 9170 TS 0.1-J5		
	9270		PNP LO (NC)	Polycarbonate		SMR 9270 TP 5	SMR 9270 TP 15	SMR 9270 TP 0.1-J5	
				Stainless Steel		SMR 9270 TS 5	SMR 9270 TS 15	SMR 9270 TS 0.1-J5	
	9370		PNP DO (NO)	Polycarbonate		SMR 9370 TP 5	SMR 9370 TP 15	SMR 9370 TP 0.1-J5	
				Stainless Steel		SMR 9370 TS 5	SMR 9370 TS 15	SMR 9370 TS 0.1-J5	



**Connections**

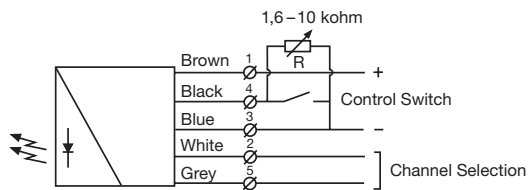
	Cable	M12 Plug / Cable
Supply +	Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue
SMT control input	Black	Pin 4 / Black
SMR output	Black	Pin 4 / Black
SMT/SMR channel selection	Grey	Pin 5 / Grey
SMT/SMR channel selection	White	Pin 2 / White

**5 pin, M12**

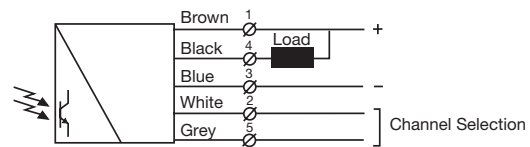


Refer to page 161 for extension cables

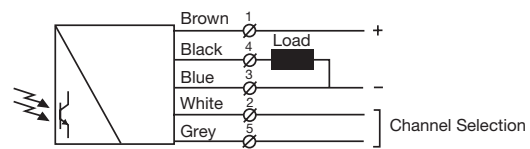
**Wiring Diagrams**



**SMT 90xxC**  
Variable range and ON/OFF switch for transmitting power



**SMR 90xx / 91xx**



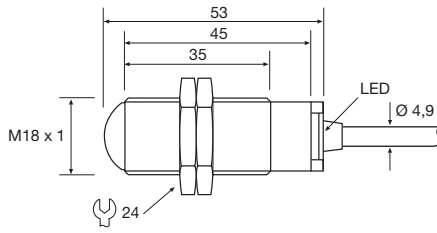
**SMR 92xx / 93xx**

**Channel Selection**

**SMT / SMR**

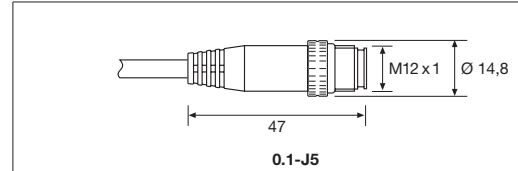
Channel Number	Connection Configuration	
	Grey wire	White wire
1	Supply - (blue wire)	Supply - (blue wire)
2	Supply + (brown wire)	Supply - (blue wire)
3	Supply - (blue wire)	Supply + (brown wire)
4	Supply + (brown wire)	Supply + (brown wire)

Dimensions and Descriptions



TP/TS 5/15/0.1-J5

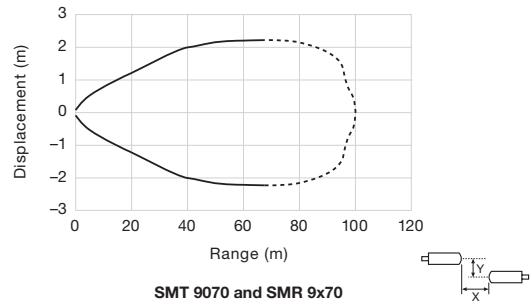
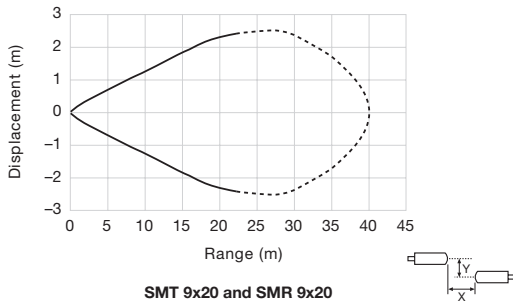
(Units in mm)



0.1-J5

Sensing Characteristics

Parallel Displacement



Angular Displacement

