

# Orion connection accessories

## Simplify the connection of Orion

# EN

[EN] The original instructions can be found at:  
 [SE] Bruksanvisningen i original finns på:  
 [DE] Die Originalbetriebsanleitung ist zu finden unter:  
 [IT] Le istruzioni originali si trovano qui:  
 [FR] La notice originale intégrale est disponible sur:  
 [ES] La versión original de las instrucciones está disponible en:  
[www.abb.com/jokabsafety](http://www.abb.com/jokabsafety)

### General description

Orion connection accessories simplify the connection of Orion light guard to muting sensors, reset buttons and Tina adapters.

For detailed information of each accessory, see Orion connection accessories overview on page 2.

### Connection examples

#### 1 Orion to a dynamic safety circuit

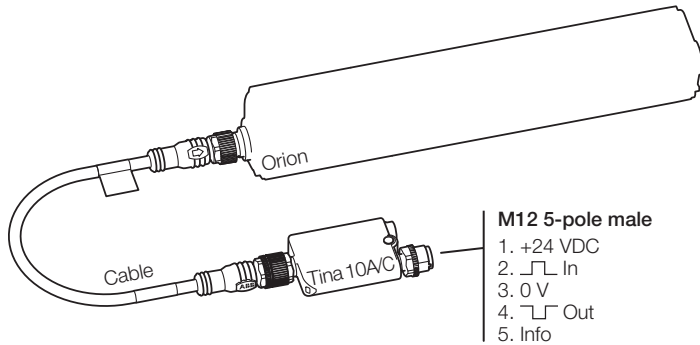
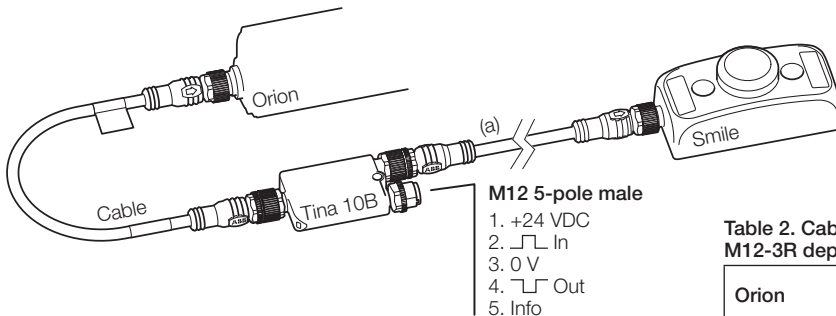


Table 1. Cable to Tina 10A/C\* depending on Orion model

Orion	Cable, article number	Tina 10A/C*
Orion1 Base	M12-CTO1BA 2TLA022315R3000	✓
Orion2 Base/ Orion2 Extended/ Orion3 Extended	M12-C134, 1 m 2TLA020056R5000 M12-C334, 3 m 2TLA020056R5100	✓
Orion3 Base	M12-CTO3B 2TLA022315R3200	✓
Orion1 Extended	—	—

\*For more information about Tina 10A/C, see Tina 10A/B/C Original instructions.

#### 2 Orion with local reset to a dynamic safety circuit



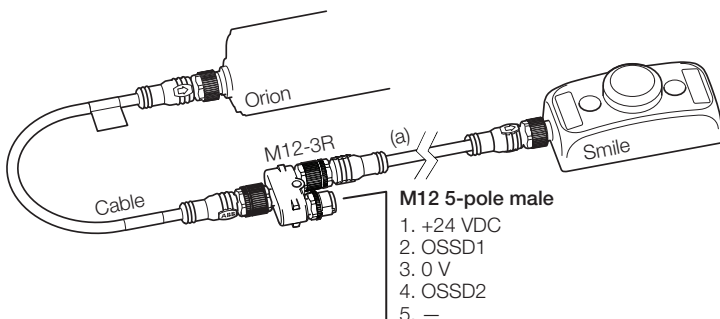
NB: M12 5-pole cable shall be used with a Smile reset button. See column (a), table 5, Electrical connections examples on page 3.

Table 2. Cable and reset button to Tina 10B alternatively M12-3R depending on Orion model

Orion	Cable, article number	Smile	Tina 10B*	M12-3R
Orion1 Base	M12-CTO1BM, 2TLA022315R3100	Smile 11RO1	✓	✓
Orion2 Base/ Orion2 Extended/ Orion3 Extended	M12-C134, 1 m, 2TLA020056R5000 M12-C334, 3 m, 2TLA020056R5100	Smile 11RO2	✓	✓
Orion3 Base	M12-CTO3B, 2TLA022315R3200	Smile 11RO3	✓	✓
Orion1 Extended	—	—	—	—

\*For more information about Tina 10B, see Tina 10A/B/C Original instructions.

#### 3 Orion with local reset and OSSD-outputs

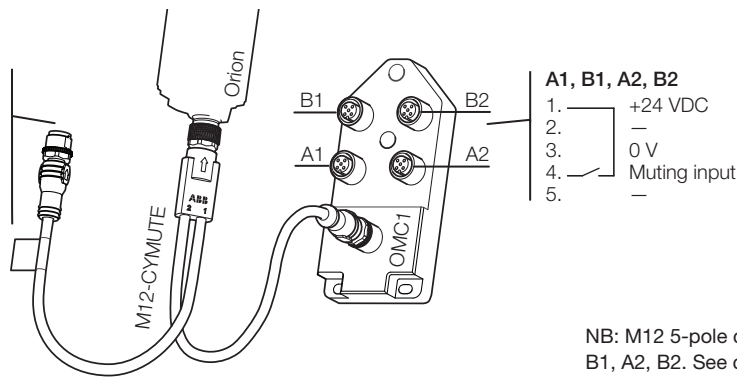


NB: M12 5-pole cable shall be used with a Smile reset button. See column (a), table 5, Electrical connection examples on page 3.

#### 4 Local connection of muting sensors to Orion

##### M12 8-pole male

Connection to:  
 - Tina 10A/B/C  
 - M12-3R  
 - Electrical cabinet



**Table 3. Cable to OMC1 depending on Orion model**

Orion	Cable, article number	OMC1
Orion1 Extended	M12-C02PT62RM, 2TLA022315R0300	✓
Orion2 Extended/ Orion3 Extended	M12-CYMUTE, 2TLA022316R0100	✓
Orion1 Base/ Orion2 Base/ Orion3 Base	—	—

\*For more information about muting, see Orion Extended Original instructions.

NB: M12 5-pole cable shall be used between muting sensors and inputs A1, B1, A2, B2. See column (a), table 5, Electrical connection examples on page 3.

#### 5 Orion to AS-i-node Urax-D1R via a transfer cable

**Table 4. Cable to Urax-D1R depending on Orion model**

Orion	Cable, article number	URAX-D1R*
Orion1 Base	M12-CTURAX-O1B, 2TLA022315R3300	✓
Orion2 Base/ Orion2 Extended/ Orion3 Extended	M12-CT132, 2TLA020060R0600	✓
Orion3 Base	M12-CTURAX-O3B, 2TLA022315R3400	✓
Orion1 Extended	—	—

\*For more information about connecting Orion to URAX-D1R, see URAX Original instructions.

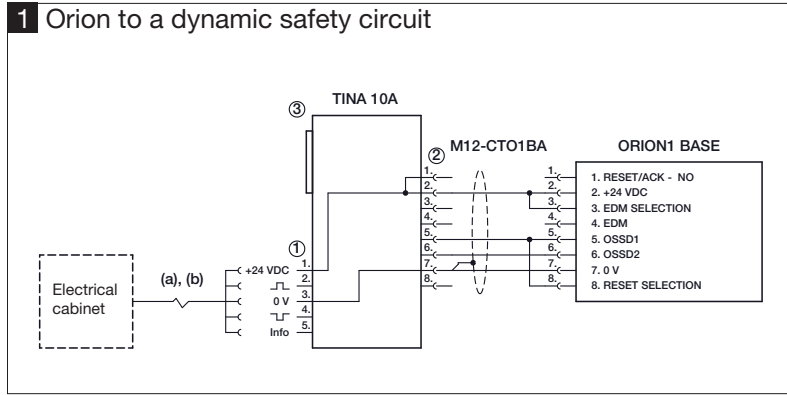
#### Orion connection accessories overview

Accessory	Article number	Description	Orion1 Base	Orion1 Extended	Orion2 Base	Orion2 Extended	Orion3 Base	Orion3 Extended
Y-connector	M12-3R 2TLA022316R0000	Y-connector for connection of Smile reset button to Orion. M12 5-pole output with OSSD.	✓		✓	✓	✓	✓
Orion muting connector	OMC1 2TLA022316R2000	Connection box for two or four muting sensors. Connection to Orion1 Extended via M12-C02PT62RM or to Orion2 Extended/Orion3 Extended via M12-CYMUTE.		✓		✓		✓
Smile reset button	SMILE 11RO1 2TLA022316R3000	Smile reset button with NO contact for Orion1 Base. Connection to Orion via Tina 10B or M12-3R.	✓					
	SMILE 11RO2 2TLA022316R3100	Smile reset button with NC contact for Orion2 Base/Orion2 Extended/Orion3 Extended. Connection to Orion via Tina 10B or M12-3R.			✓	✓		✓
	SMILE 11RO3 2TLA022316R3200	Smile reset button with NC contact for Orion3 Base. Connection to Orion via Tina 10B or M12-3R.					✓	
Y-cable	M12-CYMUTE 2TLA022316R0100	Y-connection cable for connection of OMC1 to Orion2 Extended/Orion3 Extended.				✓		✓
Transfer cable	M12-CTO1BA 2TLA022315R3000	Transfer cable for connection of Orion1 Base to Tina 10A/C (auto reset).	✓					
	M12-CTO1BM 2TLA022315R3100	Transfer cable for connection of Orion1 Base to Tina 10B or M12-3R (manual reset).	✓					
	M12-CTO3B 2TLA022315R3200	Transfer cable for connection of Orion3 Base to Tina 10A/B/C or M12-3R.					✓	
Transfer cable Urax	M12-CTURAX-O1B 2TLA022315R3300	Transfer cable for connection of Orion1 Base to Urax-D1R.	✓					
	M12-CTURAX-O3B 2TLA022315R3400	Transfer cable for connection of Orion3 Base to Urax-D1R.					✓	
	M12-CT132 2TLA020060R0600	Transfer cable for connection of Orion2 Base/Orion2 Extended/Orion3 Extended to Urax-D1R.			✓	✓		✓

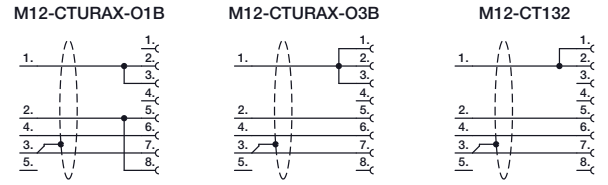
# Electrical connection examples

①, ②, ③: Connector numbering  
 (a), (b): Cable reference

## 1 Orion to a dynamic safety circuit



## 5 Orion to AS-i-node Urax-D1R via a transfer cable (transfer cable internal connections)



\*For more information about connecting Orion to URAX-D1R, see URAX Original instructions.

## 2 Orion with local reset to a dynamic safety circuit

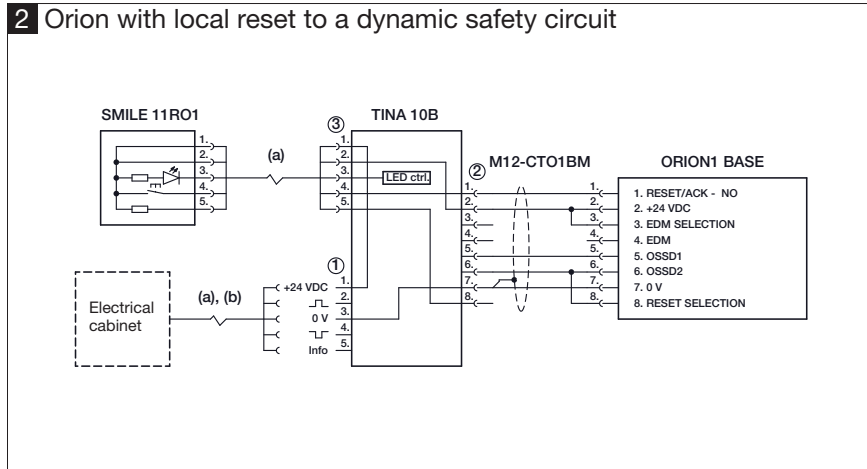
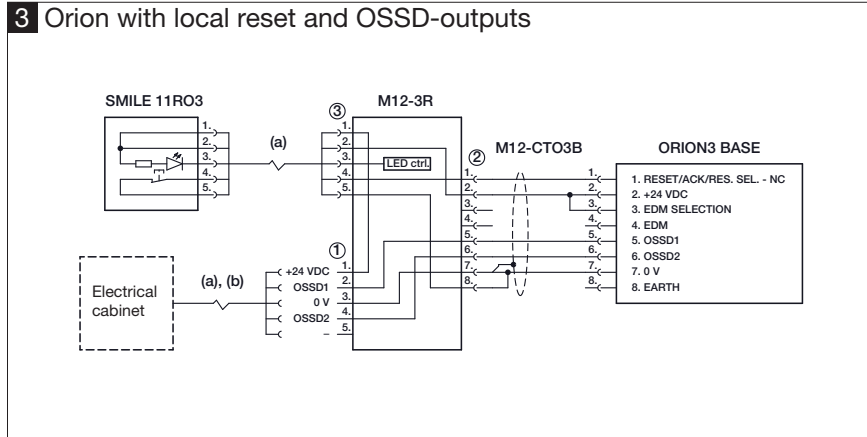


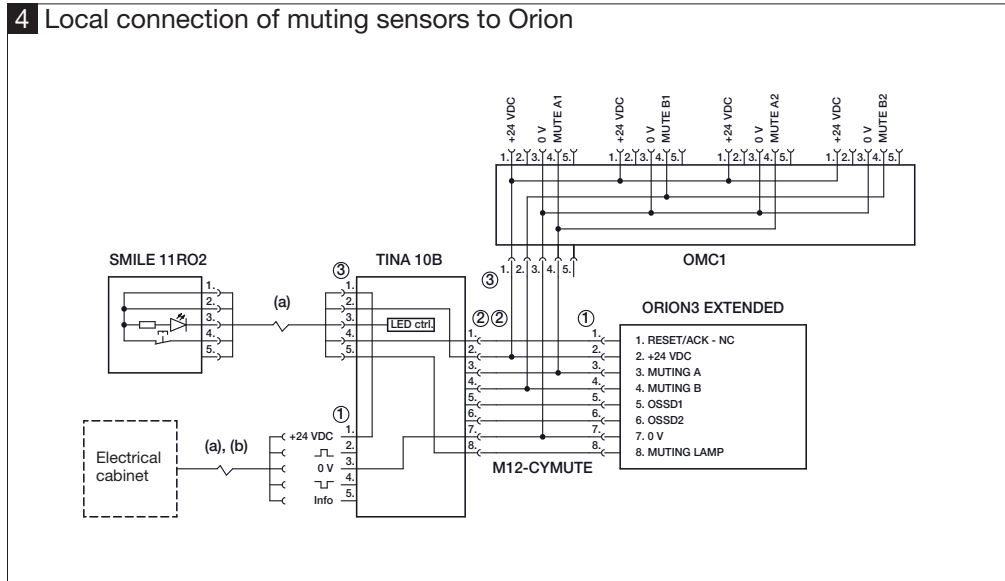
Table 5. M12 5-pole cables

Length	Cable (a), article number	Cable (b), article number
	M12 female connector + male connector	M12 female connector single ended cable
1 m	M12-C112, 2TLA020056R2000	_____
3 m	M12-C312, 2TLA020056R2100	_____
6 m	M12-C612, 2TLA020056R2200	M12-C61, 2TLA020056R0000
10 m	M12-C1012, 2TLA020056R2300	M12-C101, 2TLA020056R1000
20 m	M12-C2012, 2TLA020056R2400	M12-C201, 2TLA020056R1400

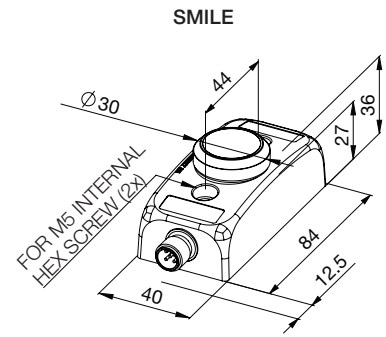
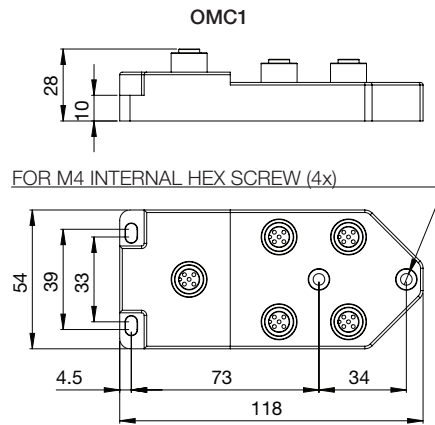
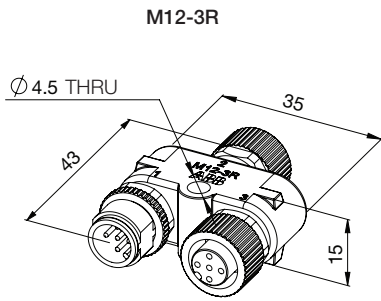
## 3 Orion with local reset and OSSD-outputs



## 4 Local connection of muting sensors to Orion



## Dimensions



All measurements in millimeters

## Technical data

<b>Manufacturer</b>	
<b>Address</b>	ABB JOKAB SAFETY Varlabergsvägen 11 SE-434 39 Kungsbacka Sweden

<b>M12-3R</b>	
Voltage	+24 VDC +/- 20 %
Total current consumption	<1 mA at +24 VDC
Reset lamp output (M12 connector 3, pin 3)	Open collector, max 30 mA
Protection class	IP67
Ambient temperature	-25...+50°C
Relative humidity	35 — 85 % (without icing or condensation)
Material	TPU
Connectors	1: M12 5-pole male 2: M12 8-pole female 3: M12 5-pole female
Size	43 x 35 x 15 (L x W x H) mm
Weight	~30 g
Color	Black

<b>OMC1</b>	
Voltage	Min: 10 V Max: 30 V
Protection class	IP67
Ambient temperature	-25...+80°C
Relative humidity	35 — 85 % (without icing or condensation)
Material	PBT
Connectors	5 x M12 5-pole female
Size	118 x 54 x 28 (L x W x H) mm
Weight	~160 g
Color	Black

## Smile 11RO1, Smile 11RO2, Smile 11RO3

LED operating voltage	+24 VDC (maximum +33 VDC)
LED power consumption	20 mA at +24 VDC 30 mA at +33 VDC
Push button box operating voltage	Min: 5 V Max: 35 V
Push button box consumption	Min: 1 mA Max: 100 mA
Push button box nominal power	Max: 250 mW
Protection class	IP65
Ambient temperature	-25...+50°C
Relative humidity	35 — 85 % (without icing and condensation)
Housing material	Polypropylene PP
Contact material	Au
Connectors	M12 5-pole male
Size	84 x 40 x 36 (L x W x H) mm + 12 mm for M12 connector (L)
Weight	~60 g
Color	Enclosure: yellow
Mechanical life	1 x 10 <sup>6</sup> operations at 10 mA / +24 VDC
Switching reliability	10 x 10 <sup>-6</sup> at 5 mA / +24 VDC

## Cables

Voltage rating	30 VAC, +30 VDC	
Contact current rating	2 A	
Protection class	IP69K	
Material	Cable jacket: black PVC Connectors: black TPU Nut and screw: nickel plated zinc alloy Terminals: gold plated brass	
<b>Cable:</b>	<b>Length (m):</b>	<b>Connectors:</b>
M12-CTO1BA M12-CTO1BM M12-CTO3B	0.2	1 x M12 8-pole female 1 x M12 8-pole male
M12-CYMUTE	2 x 0.2	1 x M12 8-pole female 1 x M12 8-pole male 1 x M12 5-pole male
M12-CTURAX-O1B M12-CTURAX-O3B M12-CT132	1	1 x M12 8-pole female 1 x M12 5-pole male

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