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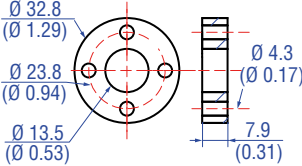
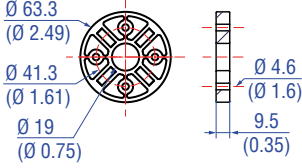
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Introduction

This brochure provides an overview of accessories for our industrial sensors. It supplements the specifications in the data sheets and operating manuals of the individual sensors. For each accessory, it is specified exactly for which sensor it is suitable and which one has been used most. So you can quickly and easily find the right accessories for your MTS sensor. In order to simplify the search, the articles are sorted in ascending order according to their 6-digit part number.

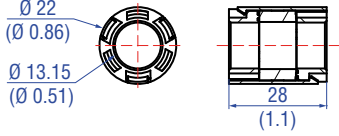
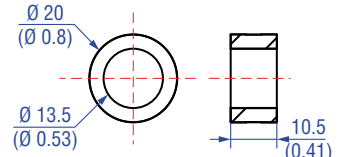
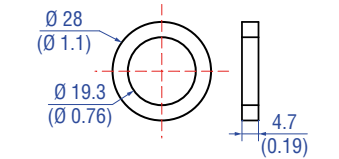
1. Position magnets

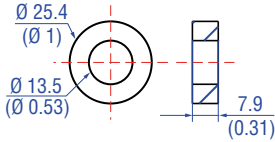
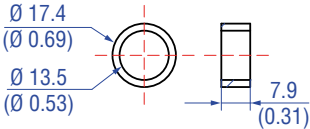
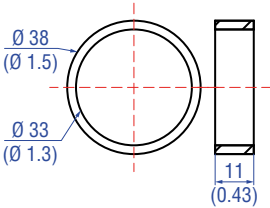
1.1 Ring magnets

Drawing	Name & part number	Description	Series
	Ring magnet OD33 Part no. 201 542-2	Material: PA ferrite GF20 Weight: Approx. 14 g Surface pressure: Max. 40 N/mm ² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+105 °C (-40...+221 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)
	Ring magnet OD63.5 Part no. 201 554	Material: PA 66-GF30, magnet slugs potted with epoxy Weight: Approx. 35 g Surface pressure: Max. 20 N/mm ² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)

Recommended accessories are marked with the following sign: 

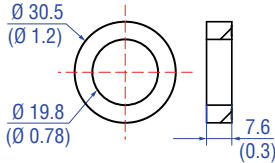
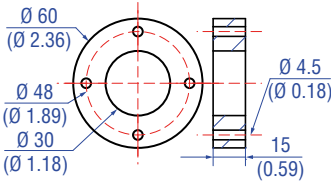
Controlling design dimensions are in millimeters and measurements in () are in inches

Drawing	Name & part number	Description	Series
	System magnet Part no. 253 928	Material: Composite POM Weight: Approx. 14 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EH, EE, ET G-Series GH, GT, GTE GB-Series GB R-Series RH, RD4, RT4 R-Series V RH5 T-Series TH (Standard)
	Ring magnet OD20 Part no. 254 012	Material: Composite neobonded Weight: Approx. 8.5 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EH, EE, ET G-Series GH, GT, GTE GB-Series GB R-Series RH, RD4, RT4 R-Series V RH5 T-Series TH (Standard)
	Ring magnet OD28 Part no. 400 424	Material: Composite PA ferrite GF20 Weight: Approx. 6 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+100 °C (-40...+212 °F)	E-Series EH, EE, ET G-Series GH, GT, GTE GB-Series GB R-Series RH, RD4, RT4, RF R-Series V RH5 T-Series TH (Standard), TH (SIL)

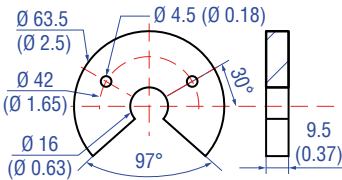
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	Ring magnet OD25.4 Part no. 400 533	Material: PA ferrite Weight: Approx. 10 g Surface pressure: Max. 40 N/mm ² Operating temperature: -40...+105 °C (-40...+221 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
	Ring magnet OD17.4 Part no. 401 032	Material: PA neobond Weight: Approx. 5 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+105 °C (-40...+221 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
	Ring magnet Part no. 401 468	Material: PA ferrite Weight: Approx. 17 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+100 °C (-40...+212 °F) Contact application engineering for handling guidelines.	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)

Recommended accessories are marked with the following sign: 

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Drawing	Name & part number	Description	Series
	Ring magnet Part no. 402 316	Material: PA ferrite coated Weight: Approx. 13 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+100 °C (-40...+212 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
T-Series			
TH (Standard), TH (SIL)			
	Ring magnet OD60 Part no. MT0162	Material: AlCuMgPb, magnets compound-filled Weight: Approx. 90 g Surface pressure: Max. 20 N/mm ² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
T-Series			
TH (Standard)			

1.2 U-magnets

Drawing	Name & part number	Description	Series
	U-magnet OD63.5 Part no. 201 553	Material: PA 66-GF30, magnets compound-filled Weight: Approx. 26 g Surface pressure: 20 N/mm ² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
T-Series			
TH (Standard), TH (SIL)			

Drawing	Name & part number	Description	Series
	U-magnet OD33 Part no. 251 416-2	Material: PA ferrite GF20 Weight: Approx. 11 g Surface pressure: Max. 40 N/mm ² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+105 °C (-40...+221 °F)	E-Series EH, EP, EE, ET G-Series GH, GP, GT, GTE GB-Series GB R-Series RH, RP, RD4, RT4, RF + HFP R-Series V RH5, RP5 T-Series TH (Standard), TH (SIL)
		R	
	U-magnet Part no. 252 185	Material: AlMg4.5Mn, black anodised; magnets compound-filled Weight: Approx. 125 g Surface pressure: Max. 20 N/mm ² Fastening torque for M4 screws: 4 Nm Operating temperature: -40...+75 °C (-40...+167 °F) This magnet may influence the sensor performance specifications for some applications.	E-Series EH, EP, EL, EE, ET G-Series GH, GP, GT, GTE GB-Series GB R-Series RH, RP, RD4, RT4, RF R-Series V RH5, RP5 T-Series TH (Standard), TH (SIL)

1.3 Magnet sliders

Drawing	Name & part number	Description	Series
	Magnet slider S, joint at top Part no. 252 182	Material: GRP, magnet hard ferrite Weight: Approx. 35 g Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EP, EL G-Series GP R-Series RP R-Series V RP5
		R	

Recommended accessories are marked with the following sign:

Controlling design dimensions are in millimeters and measurements in () are in inches

Drawing	Name & part number	Description	Series
	Magnet slider N longer ball-joint arm Part no. 252 183	Material: GRP, magnet hard ferrite Weight: Approx. 35 g Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EP, EL G-Series GP R-Series RP R-Series V RP5
	Magnet slider V, joint at front Part no. 252 184	Material: GRP, magnet hard ferrite Weight: Approx. 35 g Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EP, EL G-Series GP R-Series RP R-Series V RP5
	Magnet slider G, backlash free Part no. 253 421	Material: GRP, magnet hard ferrite Weight: Approx. 25 g Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EP, EL G-Series GP R-Series RP R-Series V RP5
	Magnet slider P, with additional end plates Part no. 253 673	Material: GRP, magnet hard ferrite Weight: Approx. 38 g Operating temperature: -40...+75 °C (-40...+167 °F)	E-Series EP, EL G-Series GP R-Series RP R-Series V RP5

Recommended accessories are marked with the following sign:

Controlling design dimensions are in millimeters and measurements in () are in inches

1.4 Block magnets

Drawing	Name & part number	Description	Series
	Block magnet K Part no. 251 298-2	Material: XOLOX Neobond 50L Weight: Approx. 22 g Surface pressure: Max. 20 N/mm² Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+105 °C (-40...+221 °F) This magnet may influence the sensor performance specifications for some applications.	E-Series
			EH, EP, EL, EE, ET
			G-Series
			GH, GP, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RP, RD4, RF
			R-Series V
			RH5, RP5
			T-Series
			TH (Standard), TH (SIL)
	Block magnet L Part no. 403 448	Material: Hard ferrite Weight: Approx. 20 g Fastening torque for M4 screws: 1 Nm Operating temperature: -40...+75 °C (-40...+167 °F) This magnet may influence the sensor performance specifications for some applications.	E-Series
			EH, EP, EP2, EL, EE, ET
			G-Series
			GH, GP, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RP, RD4, RF
			R-Series V
			RH5, RP5
			T-Series
			TH (Standard), TH (SIL)

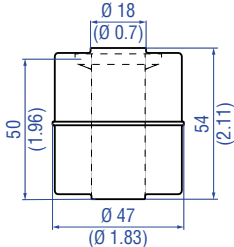
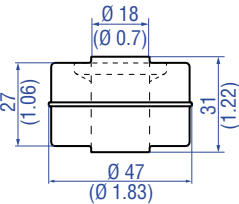
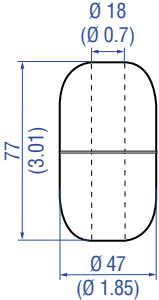
1.5 Floats

Drawing	Name & part number	Description	Series
	Float Part no. 200 938-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 8.6 bar (125 psi) Magnet offset: No Specific gravity: Max. 0.74 Operating temperature: -40...+125 °C (-40...+257 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)

- Be sure that the float specific gravity is at least 0.05 less than that of the measured liquid as a safety margin at ambient temperature.
- For interface measurement: A minimum of 0.05 specific gravity differential is required between the upper and lower liquids.
- When the magnet is not shown, the magnet is positioned at the center line of float.

- An offset weight is installed in the float to bias or tilt the float installed on the sensor tube. So the float remains in contact with the sensor tube at all times and guarantees permanent potential equalization of the float. The offset is required for installations that must conform to hazardous location standards.

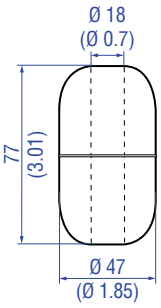
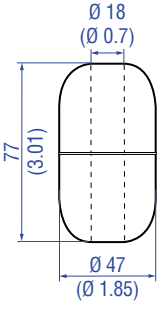
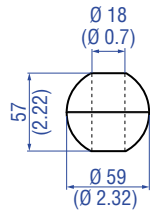
Controlling design dimensions are in millimeters and measurements in () are in inches

Drawing	Name & part number	Description	Series
	Float Part no. 201 605-2	Material: Stainless steel 1.4571 (AISI 316 Ti) Weight offset: Yes Pressure: 4 bar (60 psi) Magnet offset: Yes Specific gravity: Max. 0.6 Operating temperature: -40...+125 °C (-40...+257 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)
	Float Part no. 201 606-2	Material: Stainless steel 1.4571 (AISI 316 Ti) Weight offset: Yes Pressure: 4 bar (60 psi) Magnet offset: Yes Specific gravity: 0.93 ± 0.01 Operating temperature: -40...+125 °C (-40...+257 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)
	Float Part no. 251 981-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 29.3 bar (425 psi) Magnet offset: No Specific gravity: Max. 0.67 Operating temperature: -40...+125 °C (-40...+257 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)

- Be sure that the float specific gravity is at least 0.05 less than that of the measured liquid as a safety margin at ambient temperature.
- For interface measurement: A minimum of 0.05 specific gravity differential is required between the upper and lower liquids.
- When the magnet is not shown, the magnet is positioned at the center line of float.

- An offset weight is installed in the float to bias or tilt the float installed on the sensor tube. So the float remains in contact with the sensor tube at all times and guarantees permanent potential equalization of the float. The offset is required for installations that must conform to hazardous location standards.

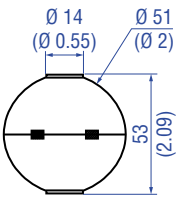
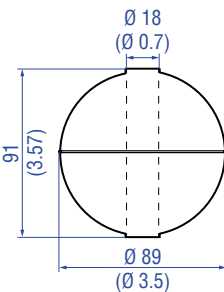
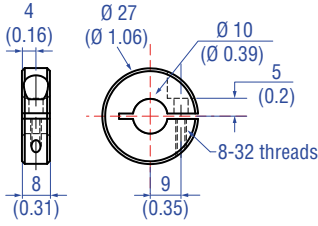
Controlling design dimensions are in millimeters and measurements in () are in inches

Drawing	Name & part number	Description	Series
	Float Part no. 251 982-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 29.3 bar (425 psi) Magnet offset: No Specific gravity: 0.93 ± 0.01 Operating temperature: $-40...+125\text{ }^{\circ}\text{C}$ ($-40...+257\text{ }^{\circ}\text{F}$)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)
	Float Part no. 251 983-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 29.3 bar (425 psi) Magnet offset: No Specific gravity: 1.06 ± 0.01 Operating temperature: $-40...+125\text{ }^{\circ}\text{C}$ ($-40...+257\text{ }^{\circ}\text{F}$)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard)
	Float Part no. 251 387-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 22.4 bar (325 psi) Magnet offset: No Specific gravity: Max. 0.48 Operating temperature: $-40...+125\text{ }^{\circ}\text{C}$ ($-40...+257\text{ }^{\circ}\text{F}$)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)

- Be sure that the float specific gravity is at least 0.05 less than that of the measured liquid as a safety margin at ambient temperature.
- For interface measurement: A minimum of 0.05 specific gravity differential is required between the upper and lower liquids.
- When the magnet is not shown, the magnet is positioned at the center line of float.

- An offset weight is installed in the float to bias or tilt the float installed on the sensor tube. So the float remains in contact with the sensor tube at all times and guarantees permanent potential equalization of the float. The offset is required for installations that must conform to hazardous location standards.

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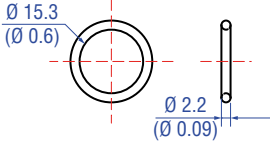
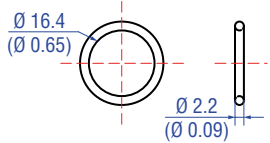
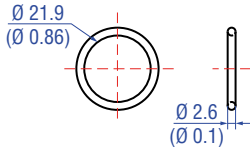
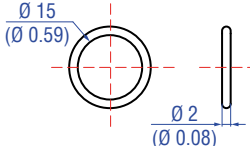
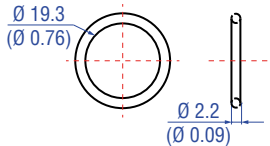
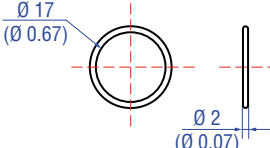
Drawing	Name & part number	Description	Series
	Float Part no. 251 447	Material: Stainless steel (AISI 304) Weight: Ca. 42 ± 3 g Specific gravity: Max. 0.72 Pressure: Max. 60 bar (870 psi) Operating temperature: –40...+145 °C (–40...+293 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
	Float Part no. 251 469-2	Material: Stainless steel (AISI 316L) Weight offset: Yes Pressure: 29.3 bar (425 psi) Magnet offset: No Specific gravity: Max. 0.45 Operating temperature: –40...+125 °C (–40...+257 °F)	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
	Stop collar Part no. 560 777	Provides end of stroke stops for float Material: Stainless steel 1.4301 (AISI 304) Weight: Approx. 30 g Hex key 7/64" required	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
			T-Series
			E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)

- Be sure that the float specific gravity is at least 0.05 less than that of the measured liquid as a safety margin at ambient temperature.
- For interface measurement: A minimum of 0.05 specific gravity differential is required between the upper and lower liquids.
- When the magnet is not shown, the magnet is positioned at the center line of float.

- An offset weight is installed in the float to bias or tilt the float installed on the sensor tube. So the float remains in contact with the sensor tube at all times and guarantees permanent potential equalization of the float. The offset is required for installations that must conform to hazardous location standards.

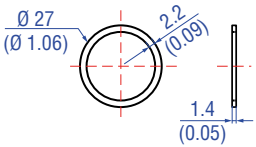
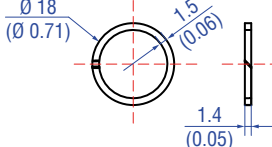
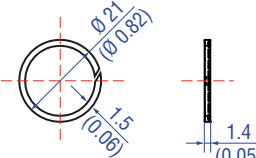
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2. O-rings

Drawing	Name & part number	Description	Series
	O-ring for threaded flange M18x1.5-6g Part no. 401 133	Material: Fluoroelastomer Durometer: 75 ± 5 Shore A Operating temperature: -40...+204 °C (-40...+400 °F)	E-Series
			EH, ET
			G-Series
			GH, GT
			GB-Series
			GB
			R-Series
			RH
			R-Series V
			RH5
	O-ring for threaded flange 3/4"-16 UNF-3A Part no. 560 315	Material: Fluoroelastomer Durometer: 75 ± 5 Shore A Operating temperature: -40...+204 °C (-40...+400 °F)	E-Series
			EH, ET
			G-Series
			GH, GT
			GB-Series
			GB
			R-Series
			RH
			R-Series V
			RH5
	O-ring for pressure fit flange Ø 26.9 mm Part no. 560 705	Material: Nitrile rubber Operating temperature: -53...+107 °C (-65...+225 °F)	R-Series
			RD4
	O-ring for pressure fit flange Ø 18 mm Part no. 560 853	Material: Fluoroelastomer Durometer: 75 Shore A	GB-Series
			GB
	O-ring for threaded flange M22x1.5-6g Part no. 561 337	Material: FPM Durometer: 75 Shore A Operating temperature: -20...+200 °C (-6...+392 °F)	R-Series
			RH
			R-Series V
	O-ring for pressure fit flange Ø 21 mm Part no. 561 438	Material: FKM Durometer: 75 Shore A Operating temperature: -18...+200 °C (-0.4...+392 °F)	GB-Series
			GB

Controlling design dimensions are in millimeters and measurements in () are in inches

3. Back-up rings

Drawing	Name & part number	Description	Series
	Back-up ring for pressure fit flange Ø 26.9 mm Part no. 560 629	Material: Polymyte Durometer: 90 Shore A	R-Series RD4
	Back-up ring for pressure fit flange Ø 18 mm Part no. 561 115	Material: PTFE + 60 % bronze	GB-Series GB
	Back-up ring for pressure fit flange Ø 21 mm Part no. 561 439	Material: PTFE	GB-Series GB

4. Mounting accessories

4.1 General accessories

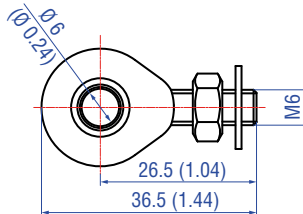
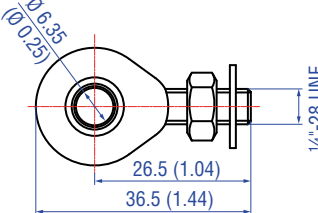
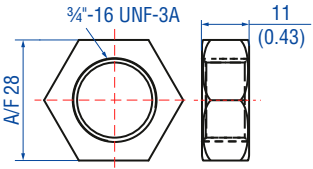
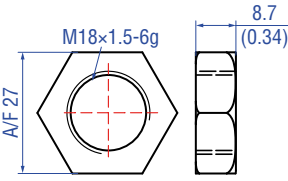
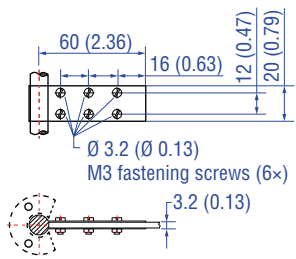
Photo / Drawing	Name & part number	Description	Series
	Rod end with M6 thread Part no. 254 210	Material: Galvanized steel	E-Series ER
	Rod end with 1/4"-28 UNF thread Part no. 254 235	Material: Galvanized steel	E-Series ER

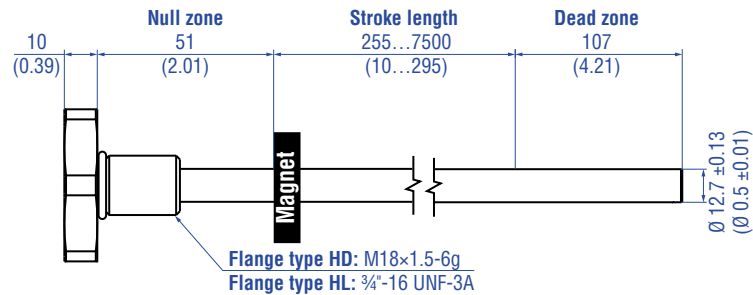
Photo / Drawing	Name & part number	Description	Series
	Magnet spacer Part no. 400 633	Material: Aluminum Weight: Approx. 5 g Surface pressure: Max. 20 N/mm ² Fastening torque for M4 screws: 1 Nm	E-Series
			EH, EE, ET
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)
	Mounting clamp Part no. 400 802	Material: Stainless steel (AISI 304)	G-Series
			GP
			R-Series
			RP
			HFP
			R-Series V
			RP5
	T-nut Part no. 401 602	Fastening torque for M5 screw: 4.5 Nm	G-Series
			GP
			R-Series
			RP
			R-Series V
			RP5
	Threaded flange 3/4"-16 UNF-3A Part no. 402 641	Material: Stainless steel 1.4305 (AISI 303)	R-Series
			RF
	Threaded flange M18×1.5-6g Part no. 402 704	Material: Stainless steel 1.4305 (AISI 303)	R-Series
			RF
	Mounting clamp Part no. 403 508	Material: Stainless steel 1.4301 / 1.4305 (AISI 304 / 303)	E-Series
			EP, EP2, EL, ER

Controlling design dimensions are in millimeters and measurements in () are in inches

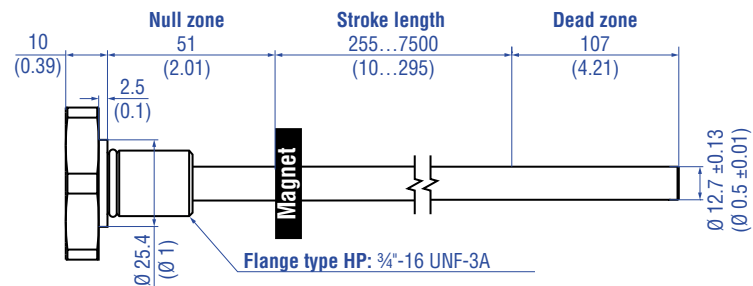
Photo / Drawing	Name & part number	Description	Series
	Hex jam nut 3/4"-16 UNF-3A Part no. 500 015	Material: Zinc plated with nylon insert	E-Series
			EH, ET
			G-Series
			GH, GT
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
	Hex jam nut M18x1.5-6g Part no. 500 018	Material: Steel, zinc, plated	E-Series
			EH, ET
			G-Series
			GH, GT
			GB-Series
			GB
			R-Series
			RH, RD4, RT4, RF
			R-Series V
			RH5
	Fixing clip for rod with Ø 10 mm Part no. 561 481	Application: Used to secure sensor rods (Ø 10 mm (Ø 0.39 in.)) when using an U-magnet or block magnet Material: Brass, non-magnetic	E-Series
			EH, ET, EE
			G-Series
			GH, GT, GTE
			GB-Series
			GB
			R-Series
			RH, RD4, RT4
			R-Series V
			RH5
			T-Series
			TH (Standard), TH (SIL)

4.2 Optional pressure rods for R-Series RF sensors

HD (with threaded flange M18×1.5-6g) / HL (with threaded flange ¾"×16UNF - 3A) optional sensor rod



HP (with threaded flange ¾"×16UNF - 3A and raised-face) optional sensor rod



Controlling design dimensions are in millimeters and measurements in () are in inches

TECHNICAL DATA

Operating conditions	
Operating pressure	350 bar (5076 psi) / 700 bar (10153 psi) peak (at 10 × 1 min) for sensor rod
Design / Material	
Sensor flange	Stainless steel 1.4305 (AISI 303)
Sensor rod	Stainless steel 1.4301 (AISI 304)
Stroke length	255...7500 mm (10...295 in.)

ORDER CODE

1

2

3

4

5

6

7

H

a

b

a	Design	
H	D	Threaded flange M18×1.5-6g
H	L	Threaded flange ¾"×16UNF - 3A
H	P	Threaded flange ¾"×16UNF - 3A with raised-face

b	Stroke length	
X	X	X X M 0025...7500 mm
Standard stroke length (mm)		Ordering steps
255 ... 1000 mm		50 mm
1000 ... 5000 mm		100 mm
5000 ... 7500 mm		250 mm
X	X	X X U 001.0...295.0 in.
Standard stroke length (in.)		Ordering steps
10 ... 40 in.		2 in.
40 ... 197 in.		4 in.
197 ... 295 in.		10 in.

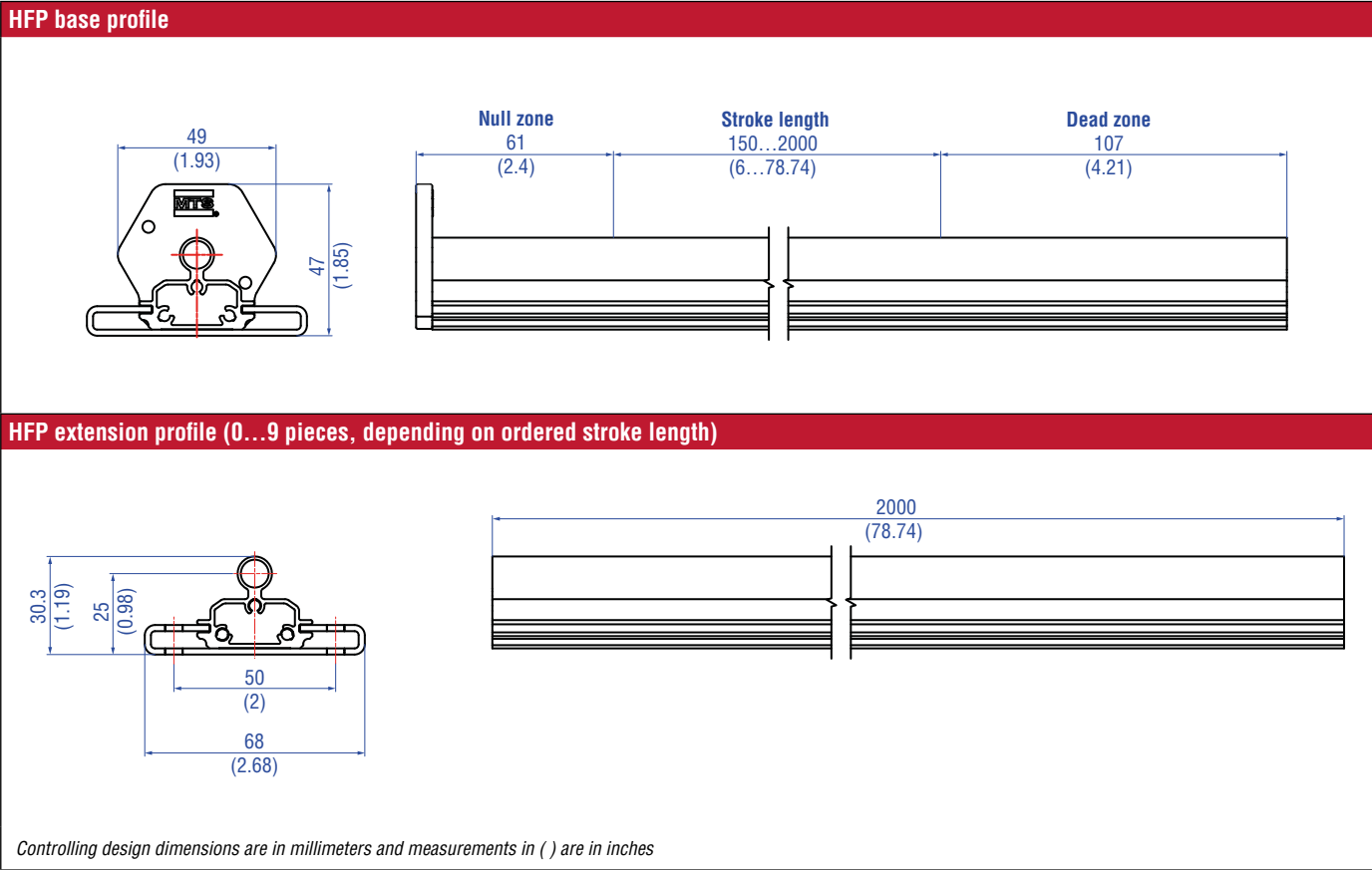
DELIVERY

- 
 - RF pressure rod
 - O-ring

4.3 Optional profile for R-Series RF sensors

The HFP consists of a basic profile. Depending on the required measuring length, different extension profiles can be added to this profile. The profiles are put together on site and sealed with an end cap. The HFP can be used with the following magnets:

- U-magnet OD33 (Part no. 251 416-2), see chapter 1.2 on page 6
- U-magnet (Part no. 252 185), see chapter 1.2 on page 6
- Block magnet K (Part no. 251 298-2), see chapter 1.4 on page 9
- Block magnet L (Part no. 403 448), see chapter 1.4 on page 9



ORDER CODE

1

2

3

4

5

6

7

8

9

H

F

P

a

d

a

Design

H

F

P

Profile

b

Stroke length

X

X

X

X

X

M

00150...20000 mm

Standard stroke length (mm)	Ordering steps
150 ... 1000 mm	50 mm
1000 ... 5000 mm	100 mm
5000 ... 10000 mm	250 mm
10000 ... 15000 mm	500 mm
15000 ... 20000 mm	1000 mm

X

X

X

X

X

U

00006...787 mm

Standard stroke length (in.)	Ordering steps
6 ... 40 in.	2 in.
40 ... 197 in.	4 in.
197 ... 393 in.	10 in.
393 ... 590 in.	19 in.
590 ... 787 in.	39 in.

DELIVERY



- 1 × base profile
- Number of extension profiles depending on the measuring length ordered
- 5 × mounting clamps for each base profile or extension profile
- 4 × connecting pins and 1 × seal for each extension profile
- 1 × end cap

Accessories have to be ordered separately.

5. Connectors

5.1 Overview

E-Series	
Part number	Connector
Analog – D34 <i>1 × M12 male connector</i>	
370 677	M12 A-coded female connector (5 pin), straight
370 678	M12 A-coded female connector (5 pin), angled
CANbus – D34 <i>1 × M12 male connector</i>	
370 677	M12 A-coded female connector (5 pin), straight
370 678	M12 A-coded female connector (5 pin), angled
IO-Link – D44 <i>1 × M12 male connector</i>	
370 677	M12 A-coded female connector (5 pin), straight
370 678	M12 A-coded female connector (5 pin), angled
Start/Stop – D84 <i>1 × M12 male connector</i>	
370 694	M12 A-coded female connector (8 pin), straight
370 699	M12 A-coded female connector (8 pin), angled
SSI – D84 <i>1 × M12 male connector</i>	
370 694	M12 A-coded female connector (8 pin), straight
370 699	M12 A-coded female connector (8 pin), angled

G-Series	
Part number	Connector
Analog – D60 <i>1 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled
Start/Stop – D60 <i>1 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled

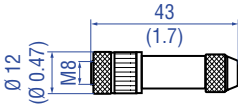
GB-Series	
Part number	Connector
Analog – D34 <i>1 × M12 male connector</i>	
370 677	M12 A-coded female connector (5 pin), straight
370 678	M12 A-coded female connector (5 pin), angled
Analog – D60 <i>1 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled
SSI – D70 <i>1 × M16 male connector</i>	
370 624	M16 female connector (7 pin), straight
560 779	M16 female connector (7 pin), angled
SSI – D84 <i>1 × M12 male connector</i>	
370 694	M12 A-coded female connector (8 pin), straight
370 699	M12 A-coded female connector (8 pin), angled

R-Series	
Part number	Connector
Analog – D60 <i>1 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled
CANbus – D54 <i>1 × M12 male connector, 1 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
561 665	M12 A-coded male connector (5 pin), straight
370 677	M12 A-coded female connector (5 pin), straight
370 678	M12 A-coded female connector (5 pin), angled
CANbus D60 <i>1 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled
CANbus – D62 <i>2 × M16 male connector</i>	
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled
EtherCAT® – D56 <i>2 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
370 523	M12 D-coded male connector (4 pin), straight
EtherNet/IP™ – D56 <i>2 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
370 523	M12 D-coded male connector (4 pin), straight
Profibus – D53 <i>1 × M12 male connector, 1 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
560 884	M12 B-coded male connector (5 pin), straight
370 515	M12 B-coded male connector (5 pin), angled
560 885	M12 B-coded female connector (5 pin), straight
370 514	M12 B-coded female connector (5 pin), angled
Profibus – D63 <i>1 × M16 male connector, 1 × M16 female connector</i>	
370 427	M16 male connector (6 pin), straight
370 621	M16 female connector (6 pin), angled
370 423	M16 female connector (6 pin), straight
370 460	M16 female connector (6 pin), angled

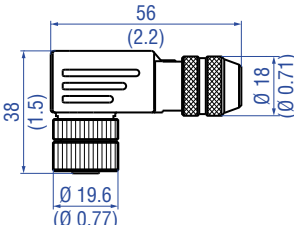
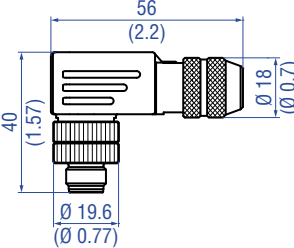
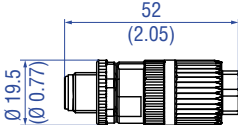
R-Series	
Part number	Connector
Powerlink – D56 <i>1 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
370 523	M12 D-coded male connector (4 pin), straight
Profinet – D58 <i>2 × M12 male connector, 1 × M12 female connector</i>	
370 523	M12 D-coded male connector (4 pin), straight
370 677	M12 A-coded female connector (5 pin), straight
SSI – D70 <i>1 × M16 male connector</i>	
370 624	M16 female connector (7 pin), straight
560 779	M16 female connector (7 pin), angled

R-Series V	
Part number	Connector
EtherNet/IP™ – D56 <i>2 × M12 female connector, 1 × M8 male connector</i>	
370 504	M8 female connector (4 pin), straight
370 523	M12 D-coded male connector (4 pin), straight
EtherNet/IP™ – D58 <i>2 × M12 male connector, 1 × M12 female connector</i>	
370 523	M12 D-coded male connector (4 pin), straight
370 677	M12 A-coded female connector (5 pin), straight
Profinet – D58 <i>2 × M12 male connector, 1 × M12 female connector</i>	
370 523	M12 D-coded male connector (4 pin), straight
370 677	M12 A-coded female connector (5 pin), straight

5.2 M8 connector

Drawing	Name & part number	Description	Series & output	
	M8 female connector (4 pin), straight Part no. 370 504	Material: CuZn nickel plated Termination: Solder Cable Ø: 3.5...5 mm (0.14...0.28 in.) Wire: 0.25 mm ² Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.5 Nm	R-Series	
			CANbus	D54
			EtherCAT®	D56
			EtherNet/IP™	D56
			Powerlink	D56
			Profibus	D53
			R-Series V	
			EtherNet/IP™	D56

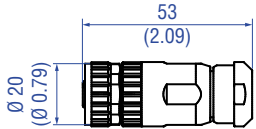
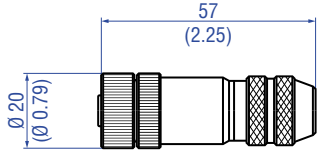
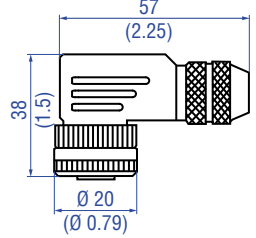
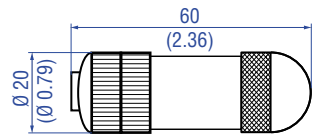
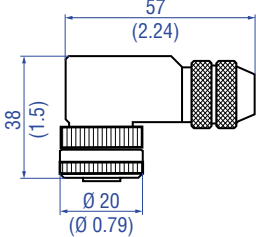
5.3 M12 connectors

Drawing	Name & part number	Description	Series & output	
	M12 B-coded female connector (5 pin), angled Part no. 370 514	Material: Zinc nickel plated Termination: Screw Contact insert: Silver plated Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm ² (18 AWG) Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.4 Nm	R-Series	
			Profibus	D53
	M12 B-coded male connector (5 pin), angled Part no. 370 515	Material: Zinc nickel plated Termination: Screw Contact insert: Silver plated Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm ² (18 AWG) Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.4 Nm	R-Series	
			Profibus	D53
	M12 D-coded male connector (4 pin), straight Part no. 370 523	Material: Zinc nickel-plated Termination: Insulation-displacement Cable Ø: 5.5...7.2 mm (0.2...0.28 in.) Wire: 24 AWG – 22 AWG Operating temperature: -25...+85 °C (-13...+185 °F) Ingress protection: IP65 / IP67 (correctly fitted) Fastening torque: 0.6 Nm	R-Series	
			EtherCAT®	D56
			EtherNet/IP™	D56
			Powerlink	D56
			Profinet	D58
			R-Series V	
			EtherNet/IP™	D56, D58
			Profinet	D58

Controlling design dimensions are in millimeters and measurements in () are in inches

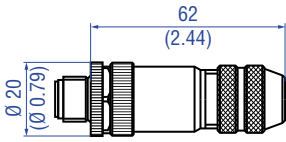
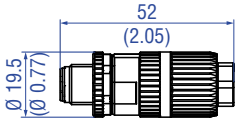
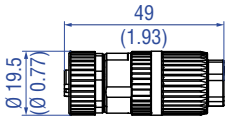
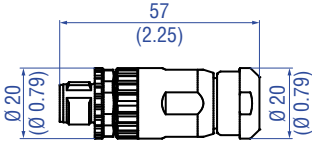
NOTICE

Follow the manufacturer's mounting instructions

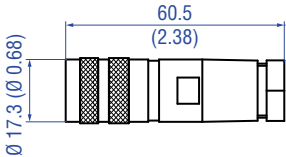
Drawing	Name & part number	Description	Series & output	
	M12 A-coded female connector (5 pin), straight Part no. 370 677	Material: GD-Zn, Ni Termination: Screw Contact insert: CuZn Cable Ø: 4...8 mm (0.16...0.31 in.) Wire: 1.5 mm ² Operating temperature: -30...+85 °C (-22...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.6 Nm	E-Series	
			Analog	D34
			CANbus	D34
			IO-Link	D44
			GB-Series	
			Analog	D34
			R-Series	
			CANbus	D54
			Profinet	D58
			R-Series V	
			EtherNet/IP™	D58
			Profinet	D58
	M12 B-coded female connector (5 pin), straight Part no. 370 766	Material: CuZn Termination: Screw Contact insert: Au Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm ² Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.5 Nm	R-Series	
			Profibus	D53
	M12 A-coded female connector (5 pin), angled Part no. 370 678	Material: GD-Zn, Ni Termination: Screw; max. 0.75 mm ² Contact insert: CuZn Cable Ø: 5...8 mm (0.2...0.31 in.) Wire: 0.75 mm ² (18 AWG) Operating temperature: -25...+85 °C (-13...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.4 Nm	E-Series	
			Analog	D34
			CANbus	D34
			IO-Link	D44
			GB-Series	
			Analog	D34
	M12 A-coded female connector (8 pin), straight Part no. 370 694	Housing: GD-ZnAL Termination: Screw Contact insert: CuZn Cable Ø: 4...9 mm (0.16...0.35 in.) Wire: 0.75 mm ² Operating temperature: -25...+90 °C (-13...+194 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.6 Nm	E-Series	
			Start/Stop	D84
			SSI	D84
			GB-Series	
			SSI	D84
	M12 A-coded female connector (8 pin), angled Part no. 370 699	Housing: GD-ZnAL Termination: Screw Contact insert: CuZn Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.5 mm ² Operating temperature: -25...+85 °C (-13...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.6 Nm	E-Series	
			Start/Stop	D84
			SSI	D84
			GB-Series	
			SSI	D84

NOTICE

Follow the manufacturer's mounting instructions

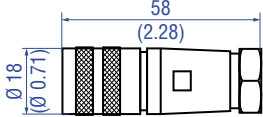
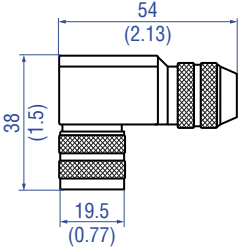
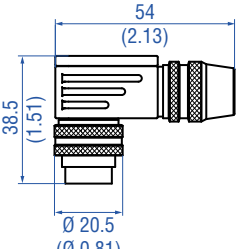
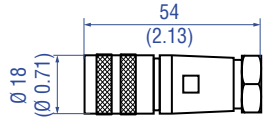
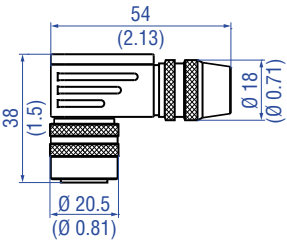
Drawing	Name & part number	Description	Series & output	
	M12 B-coded male connector (5 pin), straight Part no. 370 809	Material: CuZn Termination: Screw Contact insert: Au Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm ² Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.5 Nm	R-Series	
			Profibus	D53
	M12 B-coded male connector (5 pin), straight Part no. 560 884	Material: Zinc nickel plated Termination: Insulation-displacement Contact insert: Silver plated Cable Ø: 7...8.8 mm (0.28...0.35 in.) Wire: 0.34 mm ² (22 AWG) Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP65 / IP67 (correctly fitted) Number of contacts: 3 pin Fastening torque: 0.6 Nm	R-Series	
			Profibus	D53
	M12 B-coded female connector (5 pin), straight Part no. 560 885	Material: Zinc nickel plated Termination: Insulation-displacement Contact insert: Silver plated Cable Ø: 7...8.8 mm (0.28...0.35 in.) Wire: 0.34 mm ² (22 AWG) Operating temperature: -40...+85 °C (-40...+185 °F) Ingress protection: IP65 / IP67 (correctly fitted) Number of contacts: 3 pin Fastening torque: 0.6 Nm	R-Series	
			Profibus	D53
	M12 A-coded male connector (5 pin), straight Part no. 561 665	Housing: GD-Zn, Ni Termination: Screw Contact insert: CuZn Cable Ø: 4...8 mm (0.16...0.31 in.) Wire: 1.5 mm ² Operating temperature: -30...+85 °C (-22...+185 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.6 Nm	E-Series	
			CANbus	D34
			R-Series	
			CANbus	D54

5.4 M16 connectors

Drawing	Name & part number	Description	Series & output	
	M16 female connector (6 pin), straight Part no. 370 423	Material: Zinc nickel plated Termination: Solder Cable Ø: 6...8 mm (0.24...0.31 in.) Operating temperature: -40...+100 °C (-40...+212 °F) Ingress protection: IP65 / IP67 (correctly fitted) Fastening torque: 0.6 Nm	G-Series	
			Analog	D60
			Start/Stop	D60
			GB-Series	
			Analog	D60
			R-Series	
			Analog	D60
			CANbus	D60, D62
			Profibus	D63

NOTICE

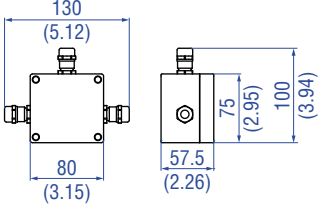
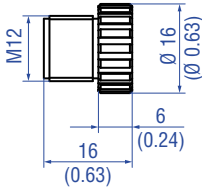
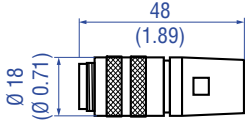
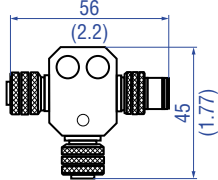
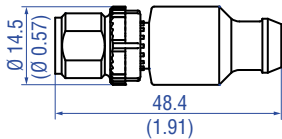
Follow the manufacturer's mounting instructions

Drawing	Name & part number	Description	Series & output	
	M16 male connector (6 pin), straight Part no. 370 427	Material: Zinc nickel plated Termination: Solder Contact insert: Silver plated Cable clamp: PG9 Cable Ø: 6...8 mm (0.24...0.31 in.) Operating temperature: -30...+100 °C (-22...+212 °F) Ingress protection: IP65 / IP67 (correctly fitted)	R-Series	
			Profibus	D63
	M16 female connector (6 pin), angled Part no. 370 460	Material: Zinc nickel plated Termination: Solder Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm² (20 AWG) Operating temperature: -40...+95 °C (-40...+203 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.6 Nm	G-Series	
			Analog	D60
			Start/Stop	D60
			GB-Series	
			Analog	D60
	M16 male connector (6 pin), angled Part no. 370 621	Material: Brass nickel plated Termination: Solder Contact insert: Silver plated Cable Ø: 6...8 mm (0.24...0.31 in.) Operating temperature: -30...+95 °C (-22...+203 °F) Ingress protection: IP67 (correctly fitted)	R-Series	
			Profibus	D63
	M16 female connector (7 pin), straight Part no. 370 624	Material: Zinc nickel plated Termination: Solder Contact insert: Silver plated Cable clamp: PG9 Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm² (20 AWG) Operating temperature: -40...+100 °C (-40...+212 °F) Ingress protection: IP65 / IP67 (correctly fitted) Fastening torque: 0.7 Nm	GB-Series	
			SSI	D70
			R-Series	
			SSI	D70
	M16 female connector (7 pin), angled Part no. 560 779	Material: Zinc nickel plated Termination: Solder Contact insert: Silver plated Cable Ø: 6...8 mm (0.24...0.31 in.) Wire: 0.75 mm² (20 AWG) Operating temperature: -40...+95 °C (-40...+203 °F) Ingress protection: IP67 (correctly fitted) Fastening torque: 0.5 Nm	GB-Series	
			SSI	D70
			R-Series	
			SSI	D70

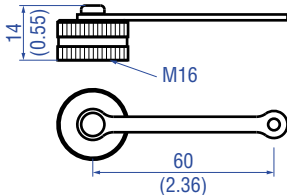
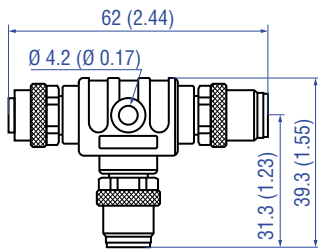
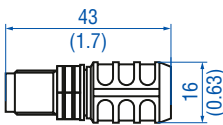
NOTICE

Follow the manufacturer's mounting instructions

5.5 Connection accessories

Drawing	Name & part number	Description	Series & output	
	Profibus filter box, M16 (6 pin) Part no. 252 916	EMC conformal feeding of +24 VDC operating voltage into the Profibus-DP hybrid cable.	R-Series	
			Profibus	D63
	M12 connector end cap Part no. 370 537	Female connectors M12 should be covered by this protective cap Material: Brass nickel-plated Ingress protection: IP67 (correctly fitted) Fastening torque: 0.39...0.49 Nm	R-Series	
			CANbus	D54
			EtherCAT®	D56
			EtherNet/IP™	D56
			Powerlink	D56
			Profibus	D53
			Profinet	D58
			R-Series V	
			EtherNet/IP™	D56, D58
			Profinet	D58
	Active M16 male bus terminator (6 pin) Part no. 370 620	Material: Zinc nickel plated Contact insert: Silver plated Operating temperature: -40...+75 °C (-40...+167 °F) Ingress protection: IP67 (correctly fitted)	R-Series	
			Profibus	D63
	M12 A-coded T connector (5 pin) Part no. 370 691	Selfcuring coupling nut 2 × female connector 1 × male connector Feature: Shielded Ingress protection: IP67 (correctly fitted)	E-Series	
			CANbus	D34
			R-Series	
	Passive M12 A-coded male bus terminator (5 pin) Part no. 370 700	Material: PUR Termination: Screw Contact insert: AU Operating temperature: -25...+85 °C (-13...+121 °F) Ingress protection: IP68 (correctly fitted)	E-Series	
			CANbus	D34
			R-Series	
			CANbus	D54

Controlling design dimensions are in millimeters and measurements in () are in inches

Drawing	Name & part number	Description	Series & output	
	M16 connector end cap Part no. 403 290	Material: Brass, nickel plated	G-Series	
			Analog	D60
			Start/Stop	D60
			GB-Series	
	Material: Zinc nickel plated Termination: Solder Contact insert: Silver plated Installation: Field installable Operating temperature: -30...+90 °C (-22...+130 °F) Ingress protection: IP67 (correctly fitted)	R-Series		
		Profibus	D53	
		R-Series		
		Analog	D60	
	Active M12 B-coded male bus terminator (5 pin) Part no. 560 888	Housing: PUR Termination: Screw Contact insert: Silver plated Operating temperature: -40...+75 °C (-40...+167 °F) Ingress protection: IP67 (correctly fitted)	R-Series	
			Profibus	D53
			R-Series	
			CANbus	D60, D62
		Profibus		D63
		SSI		D70

6. Cables

A wide range of cable variations is available for MTS sensors. In addition to the listed cables with pig-tail for self-use, it is also possible to customize the cables for the listed outputs individually with the cable configurator (chapter 7). Some sensor models can feature a cable outlet to be configured instead of a conventional connector outlet when ordering. For direct mounting of the cable to the sensor, this list contains the letter of the cable outlet designation in the order code. More information can be found in the corresponding data sheets or operating manuals of the respective sensor.

6.1 Pigtailed cables

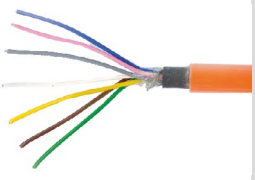
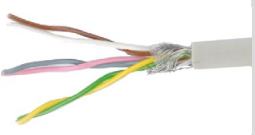
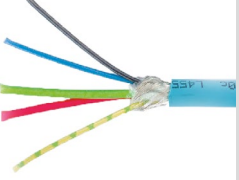
Photo	Name & part number	Description	Series & output	
	TMPU cable Part no. 530 029	Material: TMPU jacket; orange Features: Flexible Cable Ø: 6.5 mm (0.26 in.) Cross section: 7 × 0.14 mm ² Bending radius: 10 × Ø (fixed insulation) Operating temperature: -20...+70 °C (-4...+158 °F)	E-Series	
			CANbus	D34
			SSI	D84
			GB-Series	
			SSI	D70, D84
			R-Series	
	PVC cable Part no. 530 032	Material: PVC jacket; gray Features: Twisted pair, shielded, flexible Cable Ø: 6 mm (0.23 in.) Cross section: 3 × 2 × 0.14 mm ² Bending radius: 10 × Ø (fixed installation) Operating temperature: -10...+80 °C (-14...+176 °F)	E-Series	
			Analog	D34
			Start/Stop	D84
			SSI	D84
			G-Series	
			Analog	D60, RXX
			Start/Stop	D60, RXX
			GB-Series	
			Analog	D34, D60
	PVC cable Part no. 530 040	Material: PVC jacket; petrol Features: Hybrid cable (Profibus and power supply feed in), flexible Cable Ø: 8 mm (0.31 in.) Cross section: 1 × 2 × 0.65 mm ² 3 × 1 × 0.75 mm ² Bending radius: 5 × Ø (fixed installation) Operating temperature: -30...+80 °C (-22...+176 °F)	R-Series	
			Profibus	D63

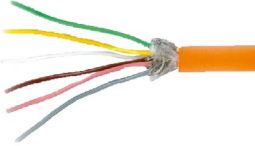
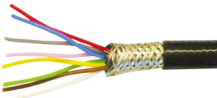
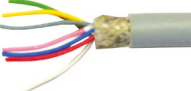
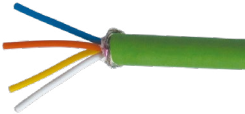
Photo	Name & part number	Description	Series & output
	PUR cable Part no. 530 052	Material: PUR jacket; orange Features: Twisted pair, shielded, highly flexible Cable Ø: 6.4 mm (0.25 in.) Cross section: 3 × 2 × 0.25 mm ² Bending radius: 5 × Ø (fixed insulation) Operating temperature: –30...+80 °C (–22...+176 °F)	E-Series
			Analog D34
			CANbus D34
			Start/Stop D84
			SSI D84
			G-Series
			Analog D60, HXX
			Start/Stop D60, HXX
			GB-Series
			Analog D34, D60, HXX
			SSI D70, D84, HXX
			R-Series
			Analog D60
			CAN D60, D62
			SSI D70, HXX
	PVC cable Part no. 530 108	Material: PVC jacket; gray Features: Shielded, flexible Cable Ø: 4.9 mm (0.19 in.) Cross section: 3 × 0.34 mm ² Operating temperature: –30...+80 °C (–22...+176 °F)	R-Series
			CANbus D54
			EtherCAT® D56
			EtherNet/IP™ D56
			Profibus D53, AXX
			Profinet D58
			Powerlink D56
			R-Series V
			EtherNet/IP™ D56, D58
			Profinet D58
	PUR cable Part no. 530 109	Material: PUR jacket; violet Features: Highly flexible Cable Ø: 8 mm (0.31 in.) Cross section: 1 × 2 × 0.64 mm ² (24 AWG) Operating temperature: –30...+70 °C (–22...+158 °F)	R-Series
			Profibus D53, AXX
	Teflon® cable Part no. 530 112	Material: Teflon® jacket; black Features: Twisted pair, shielded, flexible Cable Ø: 7.6 mm (0.3 in.) Cross section: 4 × 2 × 0.25 mm ² Bending radius: 8 – 10 × Ø (fixed installation) Operating temperature: –100...+180 °C (–148...+356 °F)	E-Series
			Analog D34
			Start/Stop D84
			CANbus D34
			SSI D84
			G-Series
			Analog D60, TXX
			Start/Stop D60, TXX
			GB-Series
			Analog D34, D60, TXX
			SSI D70, D84, TXX
			R-Series
			Analog D60, TXX
			CANbus D54, D60, D62, TXX
			SSI D70, TXX

Photo	Name & part number	Description	Series & output	
	Silicone cable Part no. 530 113	Material: Silicone jacket; red Features: Twisted pair, shielded, highly flexible Cable Ø: 7.2 mm (0.28 in.) Cross section: 3 × 2 × 0.25 mm ² Bending radius: 5 × Ø (fixed installation) Operating temperature: -50...+180 °C (-58...+356 °F)	GB-Series	
			Analog	D34, D60, VXX
			SSI	D70, D84, VXX
			R-Series	
			SSI	D70, VXX
	PUR cable Part no. 530 114	Material: PUR jacket; black Features: Highly flexible Cable Ø: 5.9 mm (0.23 in.) Cross section: 3 × 2 × 0.14 mm ² Bending radius: 4 × Ø (fixed installation) Operating temperature: -40...+80 °C (-40...+176 °F)	G-Series	
			Analog	D60, SXX
	PUR cable Part no. 530 116	Material: PUR jacket; gray Features: Shielded, flexible, longitudinally watertight Cable Ø: 8 mm (0.31 in.) Cross section: 8 × 0.25 mm ² Bending radius: 10 × Ø Operating temperature: -30...+90 °C (-22...+194 °F)	E-Series	
			Analog	D34
			Start/Stop	D84
			CANbus	D34
			SSI	D84
			G-Series	
			Analog	D60, WXX
			Start/Stop	D60, WXX
			GB-Series	
			Analog	D34, D60
			SSI	D70, D84
			R-Series	
	PUR cable Part no. 530 125	Material: PUR jacket; green Features: Cat 5, highly flexible Cable Ø: 6.5 mm (0.26 in.) Cross section: 2 × 2 × 0.35 mm ² (22/7 AWG) Operating temperature: -20...+60 °C (-4...+140 °F)	R-Series	
			EtherCAT®	D56
			EtherNet/IP™	D56
			Powerlink	D56
			Profinet	D58
			R-Series V	
			EtherNet/IP™	D56, D58
			Profinet	D58
	PUR cable Part no. 530 154	Material: PUR jacket; purple Features: Flexible Cable Ø: 7.4 mm (0.29 in.) Cross section: 2 × 2 × 0.34 mm ² Operation temperature: -40...+80 °C (-40...+176 °F)	R-Series	
			CANbus	D54, D60, D62

6.2 Cable sets

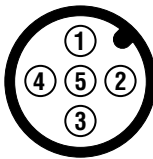
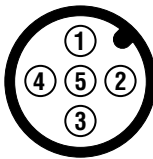
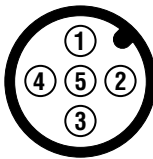
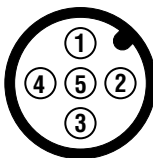
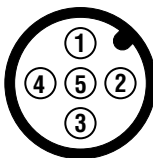
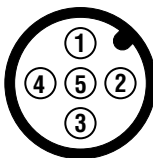
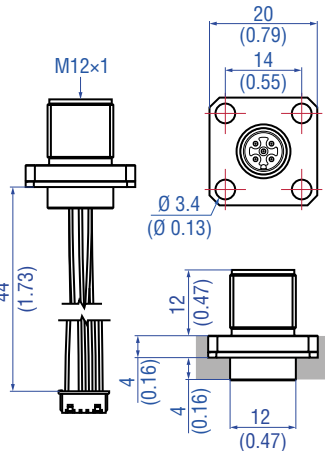
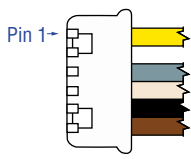
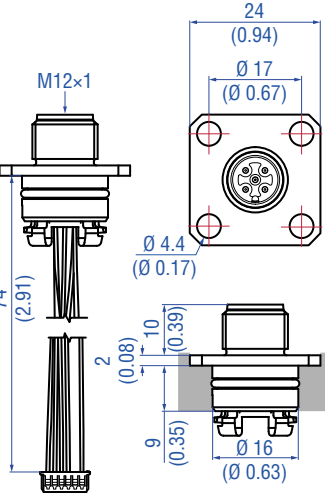
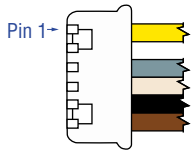
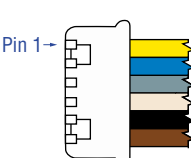
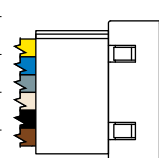
Photo / Drawing	Name & part number	Description	Series & output																															
	Cable with M16 male connector (6 pin), straight – M12 A-coded female connector (5 pin), straight Part no. 254 206	For E-Series with analog output (V01, V03, A01, A02) Cable length: 300 mm (11.81 in.)	E-Series Analog	D34																														
		Wiring																																
		<table><thead><tr><th>M16 male connector (6 pin)</th><th>Pin</th><th></th><th>Pin</th><th>M12 A-coded female connector (5 pin)</th></tr></thead><tbody><tr><td rowspan="6"></td><td>5</td><td>↔</td><td>1</td><td rowspan="6"></td></tr><tr><td>1</td><td>↔</td><td>2</td></tr><tr><td>6</td><td>↔</td><td>3</td></tr><tr><td>3</td><td>↔</td><td>4</td></tr><tr><td>2</td><td>↔</td><td>5</td></tr><tr><td>4</td><td></td><td></td></tr></tbody></table>	M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (5 pin)		5	↔	1		1	↔	2	6	↔	3	3	↔	4	2	↔	5	4									
M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (5 pin)																														
	5	↔	1																															
	1	↔	2																															
	6	↔	3																															
	3	↔	4																															
	2	↔	5																															
	4																																	
	Cable with M16 male connector (6 pin), straight – M12 A-coded female connector (8 pin), straight Part no. 254 207	For E-Series with Start/Stop output Cable length: 300 mm (11.81 in.)	E-Series Start/Stop	D84																														
		Wiring																																
		<table><thead><tr><th>M16 male connector (6 pin)</th><th>Pin</th><th></th><th>Pin</th><th>M12 A-coded female connector (8 pin)</th></tr></thead><tbody><tr><td rowspan="8"></td><td>3</td><td>↔</td><td>1</td><td rowspan="8"></td></tr><tr><td>4</td><td>↔</td><td>2</td></tr><tr><td>2</td><td>↔</td><td>3</td></tr><tr><td>1</td><td>↔</td><td>4</td></tr><tr><td>–</td><td>↔</td><td>5</td></tr><tr><td>–</td><td>↔</td><td>6</td></tr><tr><td>5</td><td>↔</td><td>7</td></tr><tr><td>6</td><td>↔</td><td>8</td></tr></tbody></table>	M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (8 pin)		3	↔	1		4	↔	2	2	↔	3	1	↔	4	–	↔	5	–	↔	6	5	↔	7	6	↔	8	
M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (8 pin)																														
	3	↔	1																															
	4	↔	2																															
	2	↔	3																															
	1	↔	4																															
	–	↔	5																															
	–	↔	6																															
	5	↔	7																															
	6	↔	8																															
	Cable with M16 male connector (6 pin), straight – M12 A-coded female connector (5 pin), straight Part no. 254 270	For E-Series with analog output (A11) Cable length: 300 mm (11.81 in.)	E-Series Analog	D34																														
		Wiring																																
		<table><thead><tr><th>M16 male connector (6 pin)</th><th>Pin</th><th></th><th>Pin</th><th>M12 A-coded female connector (5 pin)</th></tr></thead><tbody><tr><td rowspan="7"></td><td>5</td><td>↔</td><td>1</td><td rowspan="7"></td></tr><tr><td>1</td><td>↔</td><td>2</td></tr><tr><td>3</td><td></td><td></td></tr><tr><td>6</td><td>↔</td><td>3</td></tr><tr><td>–</td><td>↔</td><td>4</td></tr><tr><td>2</td><td>↔</td><td>5</td></tr><tr><td>4</td><td></td><td></td></tr></tbody></table>	M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (5 pin)		5	↔	1		1	↔	2	3			6	↔	3	–	↔	4	2	↔	5	4						
M16 male connector (6 pin)	Pin		Pin	M12 A-coded female connector (5 pin)																														
	5	↔	1																															
	1	↔	2																															
	3																																	
	6	↔	3																															
	–	↔	4																															
	2	↔	5																															
	4																																	

Photo / Drawing	Name & part number	Description	Series & output																						
	Cable with PicoBlade™ male connector (5 pin), straight – M12 A-coded male connector (5 pin) with flange	Operating temperature: –40...+80 °C (–40...+176 °F)	E-Series																						
			Analog	M11, M31, M61																					
Wiring																									
		<table><tr><th>Pin</th><th></th><th>Pin</th></tr><tr><td>1</td><td>↔</td><td>4</td></tr><tr><td>–</td><td>↔</td><td>–</td></tr><tr><td>3</td><td>↔</td><td>2</td></tr><tr><td>4</td><td>↔</td><td>3</td></tr><tr><td>5</td><td>↔</td><td>5</td></tr><tr><td>6</td><td>↔</td><td>1</td></tr></table>	Pin		Pin	1	↔	4	–	↔	–	3	↔	2	4	↔	3	5	↔	5	6	↔	1		
Pin		Pin																							
1	↔	4																							
–	↔	–																							
3	↔	2																							
4	↔	3																							
5	↔	5																							
6	↔	1																							
	Cable with PicoBlade™ male connector (6 pin), straight – M12 A-coded male connector (5 pin) with flange Part no. 254 560	See technical bulletin “Connector system M12 for Sensor E-Series Embedded” (document part no.: 551758) for further information	E-Series																						
			Analog	M11, M31, M61																					
Wiring																									
		<table><tr><th>Pin</th><th></th><th>Pin</th></tr><tr><td>1</td><td>↔</td><td>4</td></tr><tr><td>–</td><td>↔</td><td>–</td></tr><tr><td>3</td><td>↔</td><td>2</td></tr><tr><td>4</td><td>↔</td><td>3</td></tr><tr><td>5</td><td>↔</td><td>5</td></tr><tr><td>6</td><td>↔</td><td>1</td></tr></table>	Pin		Pin	1	↔	4	–	↔	–	3	↔	2	4	↔	3	5	↔	5	6	↔	1		
Pin		Pin																							
1	↔	4																							
–	↔	–																							
3	↔	2																							
4	↔	3																							
5	↔	5																							
6	↔	1																							
	Extension cable, PicoBlade™ male connector (5 pin), straight – PicoBlade™ female connector (5 pin), straight 140 mm Part no. 254 642-1 340 mm Part no. 254 642-2	Operating temperature: –40...+80 °C (–40...+176 °F)	E-Series																						
			Analog	M11, M31, M61																					
Wiring																									
		<table><tr><th>Pin</th><th></th><th>Pin</th></tr><tr><td>1</td><td>↔</td><td>1</td></tr><tr><td>2</td><td>↔</td><td>2</td></tr><tr><td>3</td><td>↔</td><td>3</td></tr><tr><td>4</td><td>↔</td><td>4</td></tr><tr><td>5</td><td>↔</td><td>5</td></tr><tr><td>6</td><td>↔</td><td>6</td></tr></table>	Pin		Pin	1	↔	1	2	↔	2	3	↔	3	4	↔	4	5	↔	5	6	↔	6		
Pin		Pin																							
1	↔	1																							
2	↔	2																							
3	↔	3																							
4	↔	4																							
5	↔	5																							
6	↔	6																							

Controlling design dimensions are in millimeters and measurements in () are in inches

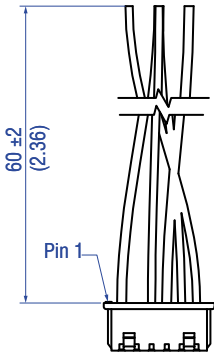
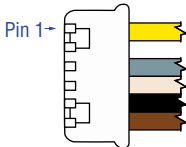
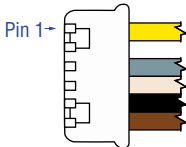
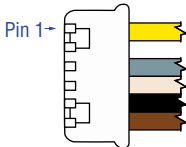
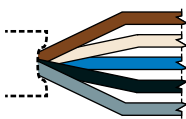
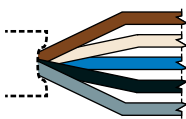
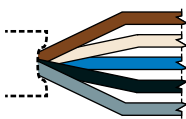
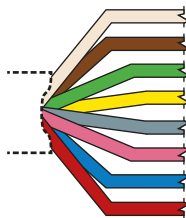
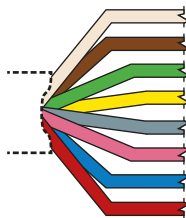
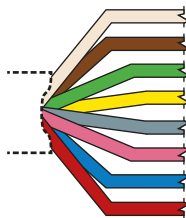
Photo / Drawing	Name & part number	Description	Series & output																							
	Extension cable, PicoBlade™ male connector (5 pin), straight – pigtail Part no. 254 266	Operating temperature: –40...+80 °C (–40...+176 °F)	E-Series																							
			Analog	M11, M31, M61																						
		Wiring																								
		<table><thead><tr><th>PicoBlade™ male connector (6 pin)</th><th>Pin</th><th>Color</th><th>Wires</th></tr></thead><tbody><tr><td rowspan="6"></td><td>1</td><td>↔ YE</td><td rowspan="6"></td></tr><tr><td>–</td><td>↔ –</td></tr><tr><td>3</td><td>↔ GY</td></tr><tr><td>4</td><td>↔ WH</td></tr><tr><td>5</td><td>↔ BK</td></tr><tr><td>6</td><td>↔ BN</td></tr></tbody></table>	PicoBlade™ male connector (6 pin)	Pin	Color	Wires		1	↔ YE		–	↔ –	3	↔ GY	4	↔ WH	5	↔ BK	6	↔ BN						
PicoBlade™ male connector (6 pin)	Pin	Color	Wires																							
	1	↔ YE																								
	–	↔ –																								
	3	↔ GY																								
	4	↔ WH																								
	5	↔ BK																								
	6	↔ BN																								
	Cable with M12 A-coded female connector (5 pin), straight – pigtail Part no. 370 673	Material: PUR jacket; black Features: Shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67 (correctly fitted) Operating temperature: –25...+80 °C (–13...+176 °F)	E-Series																							
			Analog	D34																						
			IO-Link	D44																						
		Wiring																								
		<table><thead><tr><th>Wires</th><th>Color</th><th>Pin</th><th>M12 A-coded female connector (5 pin)</th></tr></thead><tbody><tr><td rowspan="5"></td><td>BN</td><td>↔ 1</td><td rowspan="5"></td></tr><tr><td>WH</td><td>↔ 2</td></tr><tr><td>BU</td><td>↔ 3</td></tr><tr><td>BK</td><td>↔ 4</td></tr><tr><td>GY</td><td>↔ 5</td></tr></tbody></table>	Wires	Color	Pin	M12 A-coded female connector (5 pin)		BN	↔ 1		WH	↔ 2	BU	↔ 3	BK	↔ 4	GY	↔ 5								
Wires	Color	Pin	M12 A-coded female connector (5 pin)																							
	BN	↔ 1																								
	WH	↔ 2																								
	BU	↔ 3																								
	BK	↔ 4																								
	GY	↔ 5																								
	Cable with M12 A-coded female connector (8 pin), straight – pigtail Part no. 370 674 Consider cable 370 789. The additional feature „twisted pair“ minimizes interference from external sources.	Material: PUR jacket; black Features: Shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67, IP69K (correctly fitted) Operating temperature: –25...+80 °C (–13...+176 °F)	E-Series																							
			SSI	D84																						
			Start/Stop	D84																						
		Wiring																								
		<table><thead><tr><th>Wires</th><th>Color</th><th>Pin</th><th>M12 A-coded female connector (8 pin)</th></tr></thead><tbody><tr><td rowspan="8"></td><td>WH</td><td>↔ 1</td><td rowspan="8"></td></tr><tr><td>BN</td><td>↔ 2</td></tr><tr><td>GN</td><td>↔ 3</td></tr><tr><td>YE</td><td>↔ 4</td></tr><tr><td>GY</td><td>↔ 5</td></tr><tr><td>PK</td><td>↔ 6</td></tr><tr><td>BU</td><td>↔ 7</td></tr><tr><td>RD</td><td>↔ 8</td></tr></tbody></table>	Wires	Color	Pin	M12 A-coded female connector (8 pin)		WH	↔ 1		BN	↔ 2	GN	↔ 3	YE	↔ 4	GY	↔ 5	PK	↔ 6	BU	↔ 7	RD	↔ 8		
Wires	Color	Pin	M12 A-coded female connector (8 pin)																							
	WH	↔ 1																								
	BN	↔ 2																								
	GN	↔ 3																								
	YE	↔ 4																								
	GY	↔ 5																								
	PK	↔ 6																								
	BU	↔ 7																								
	RD	↔ 8																								

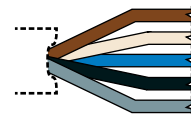
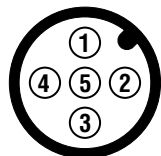
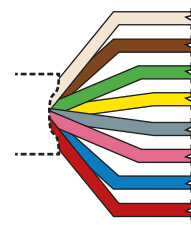
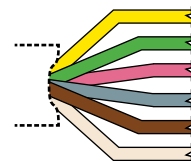
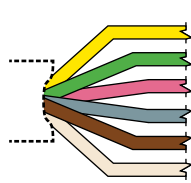
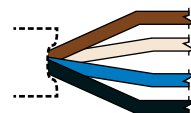
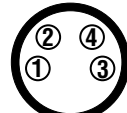
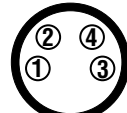
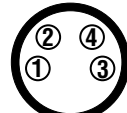
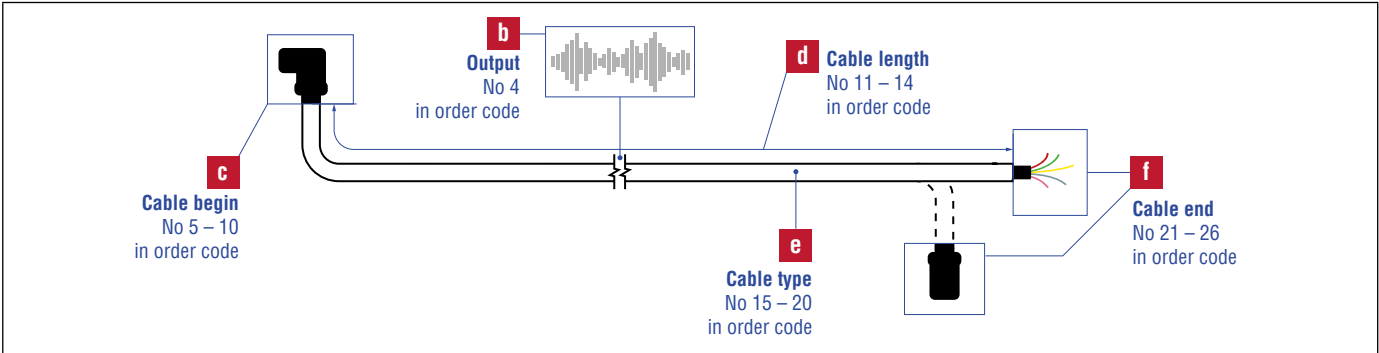
Photo / Drawing	Name & part number	Description	Series & output			
	Cable with M12 A-coded female connector (5 pin), angled – pigtail Part no. 370 675	Material: PUR jacket Features: Shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67 (correctly fitted) Operating temperature: –25...+60 °C (–13...+140 °F)	E-Series			
			Analog	D34		
			CAN	D34		
					IO-Link	D44
		Wiring				
			Wires	Color	Pin	M12 A-coded female connector (5 pin) 
				BN	↔ 1	
				WH	↔ 2	
				BU	↔ 3	
				BK	↔ 4	
	GY	↔ 5				
	Cable with M12 A-coded female connector (8 pin), angled – pigtail Part no. 370 676 <i>Consider cable 370 821. The additional feature „twisted pair“ minimizes interference from external sources.</i>	Cable: Shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67 (correctly fitted)	E-Series			
			SSI	D84		
			Start/Stop	D84		
		Wiring				
			Wires	Color	Pin	M12 A-coded female connector (8 pin) 
				WH	↔ 1	
				BN	↔ 2	
				GN	↔ 3	
				YE	↔ 4	
				GY	↔ 5	
	PK		↔ 6			
	BU		↔ 7			
	RD	↔ 8				
	Cable with M12 A-coded female connector (8 pin), straight – pigtail Part no. 370 789	Material: PUR jacket; orange Features: Twisted pair, shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67, IP69K (correctly fitted) Operating temperature: –25...+80 °C (–13...+176 °F)	E-Series			
			SSI	D84		
			Start/Stop	D84		
		Wiring				
			Wires	Color	Pin	M12 A-coded female connector (8 pin) 
				YE	↔ 1	
				GN	↔ 2	
				PK	↔ 3	
				GY	↔ 4	
				–	↔ 5	
	–		↔ 6			
	BN		↔ 7			
	WH	↔ 8				

Photo / Drawing	Name & part number	Description	Series & output																													
	Cable with M12 A-coded female connector (8 pin), angled – pigtail Part no. 370 821	Material: PUR jacket; orange Features: Twisted pair, shielded Cable length: 5 m (16.4 ft) Ingress protection: IP67, IP69K (correctly fitted) Operating temperature: -25...+80 °C (-13...+176 °F)	E-Series																													
			SSI	D84																												
			Start/Stop	D84																												
			Wiring																													
			<table><tr><th>Wires</th><th>Color</th><th>Pin</th><th>M12 A-coded female connector (8 pin)</th></tr><tr><td></td><td>YE</td><td>↔ 1</td><td rowspan="8"></td></tr><tr><td></td><td>GN</td><td>↔ 2</td></tr><tr><td></td><td>PK</td><td>↔ 3</td></tr><tr><td></td><td>GY</td><td>↔ 4</td></tr><tr><td></td><td>-</td><td>↔ 5</td></tr><tr><td></td><td>-</td><td>↔ 6</td></tr><tr><td></td><td>BN</td><td>↔ 7</td></tr><tr><td></td><td>WH</td><td>↔ 8</td></tr></table>	Wires	Color	Pin	M12 A-coded female connector (8 pin)		YE	↔ 1			GN	↔ 2		PK	↔ 3		GY	↔ 4		-	↔ 5		-	↔ 6		BN	↔ 7		WH	↔ 8
Wires	Color	Pin	M12 A-coded female connector (8 pin)																													
	YE	↔ 1																														
	GN	↔ 2																														
	PK	↔ 3																														
	GY	↔ 4																														
	-	↔ 5																														
	-	↔ 6																														
	BN	↔ 7																														
	WH	↔ 8																														
	Cable with M12 D-coded male connector (4 pin), straight – M12 D-coded, male connector (4 pin), straight Part no. 530 064	Material: PUR jacket; green Features: Cat 5e Cable length: 5 m (16.4 ft) Cable Ø: 6.5 mm (0.26 in.) Ingress protection: IP65, IP67, IP68 (correctly fitted) Operating temperature: -30...+70 °C (-22...+158 °F)	R-Series																													
			EtherCAT®	D56																												
			EtherNet/IP™	D56																												
			Powerlink	D56																												
			Profinet	D58																												
	R-Series V																															
	EtherNet/IP™	D56, D58																														
	Profinet	D58																														
	Cable with M12 D-coded male connector (4 pin), straight – RJ45 male connector, straight Part no. 530 065	Material: PUR jacket; green Features: Cat 5e Cable length: 5 m (16.4 ft) Cable Ø: 6.5 mm (0.26 in.) Ingress protection M12 connector: IP67 (correctly fitted) Ingress protection RJ45 connector: IP20 (correctly fitted) Operating temperature: -30...+70 °C (-22...+158 °F)	R-Series																													
			EtherCAT®	D56																												
			EtherNet/IP™	D56																												
			Powerlink	D56																												
			Profinet	D58																												
	R-Series V																															
	EtherNet/IP™	D56, D58																														
	Profinet	D58																														
	Cable with M8 female connector (4 pin), straight – pigtail Part no. 530 066 (5 m (16.4 ft.)) Part no. 530 096 (10 m (32.8 ft.)) Part no. 530 093 (15 m (49.2 ft.))	Material: PUR jacket; gray Features: Shielded Cable Ø: 8 mm (0.3 in.) Operating temperature: -40...+90 °C (-40...+194 °F)	R-Series																													
			EtherCAT®	D56																												
			EtherNet/IP™	D56																												
			Powerlink	D56																												
			Profibus	D53, AXX																												
	R-Series V																															
	EtherNet/IP™	D56																														
	Wiring																															
			<table><tr><th>Wires</th><th>Color</th><th>Pin</th><th>M8 female connector (4 pin)</th></tr><tr><td></td><td>BN</td><td>↔ 1</td><td rowspan="4"></td></tr><tr><td></td><td>WH</td><td>↔ 2</td></tr><tr><td></td><td>BU</td><td>↔ 3</td></tr><tr><td></td><td>BK</td><td>↔ 4</td></tr></table>	Wires	Color	Pin	M8 female connector (4 pin)		BN	↔ 1			WH	↔ 2		BU	↔ 3		BK	↔ 4												
Wires	Color	Pin	M8 female connector (4 pin)																													
	BN	↔ 1																														
	WH	↔ 2																														
	BU	↔ 3																														
	BK	↔ 4																														

7. Cable configurator

7.1 Structure

The cables can individually be modified by using the cable configurator. Depending on the structure shown, the output, cable start, cable length, cable type and cable end must be selected. The following pages list the outputs, the corresponding device plugs and sockets as well as cable types.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
M	T	S																							
a			b	c						d				e						f					
																				optional					

a	Company name																								
M	T	S	MTS Sensors																						

b	Output																								
X	• Analog • Start/Stop • CANbus • SSI • EtherCAT®, EtherNet/IP™, Powerlink, Profinet • Profibus • Power supply (CANbus, EtherCAT®, EtherNet/IP™, Powerlink, Profibus, Profinet)																								

c	Cable begin <i>see chapter 5 for detailed information</i>																								
X	X	X	X	X	X	• M8 / M12 / M16 • Male / female • Straight connector / angled connector																			

d	Cable length																								
X	X	X	X	X	0030...9990 cm*																				

e	Cable type <i>see chapter 6 for detailed information</i>									
X	X	X	X	X	X	• PUR cable • PVC cable • TMPU cable • Teflon® cable • Silicone cable				

Optional – instead of pigtail cable end

f	Cable end <i>see chapter 5 for detailed information</i>														
X	X	X	X	X	X	• M12 / M16 • Male / female • Straight connector / angled connector									
<i>Choose this option, if the cable end should have a connector instead of pig tail.</i>															

*/ Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

7.2 Analog

Example: 100 cm PUR cable (530052) with M16 straight female connector (370423) and open cable end for R-Series Analog (D60):
MTS-A-370423-0100-530052

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
M	T	S	A																
a	b	c						d				e							

a	Company name																		
M	T	S	MTS Sensors																

b	Output																		
A	Analog																		

c	Cable begin									
M12 (D34) see chapter 5.3 for detailed information										
3	7	0	6	7	7	Straight	Female	E-Series	D34	
								GB-Series	D34	
3	7	0	6	7	8	Angled	Female	E-Series	D34	
								GB-Series	D34	
M16 (D60) see chapter 5.4 for detailed information										
3	7	0	4	2	3	Straight	Female	R-Series	D60	
								G-Series	D60	
								GB-Series	D60	
3	7	0	4	6	0	Angled	Female	R-Series	D60	
								G-Series	D60	
								GB-Series	D60	

d	Cable length																		
X	X	X	X	0030...9990 cm*															

e	Cable type <i>see chapter 6 for detailed information</i>																		
5	3	0	0	3	2	PVC cable													
5	3	0	0	5	2	PUR cable													
5	3	0	1	1	2	Teflon® cable													
5	3	0	1	1	6	PUR cable													

Wiring

Cable 530 032	Cable 530 052	Cable 530 112	Cable 530 116	M12 female connector	M16 female connector
Color	Color	Color	Color	Pin	Pin
GY	GY	GY	GY	2	1
PK	PK	PK	PK	5	2
YE	YE	YE	YE	4	3
GN	GN	GN	GN	Not connected	4
BN	BN	BN	BN	1	5
WH	WH	WH	WH	3	6
—	—	BU	BU	Not connected	Not connected
—	—	RD	RD	Not connected	Not connected

* / Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

7.3 Start/Stop

Example: 100 cm PUR cable (530052) with M12 straight female connector (370694) and open cable end for E-Series Start/Stop (D84):
MTS-R-370694-0100-530052

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
M	T	S	R																
a			b	c						d				e					

a	Company name																		
M	T	S	MTS Sensors																

b	Output																		
R	Start/Stop																		

c	Cable begin									
M12 (D84) see chapter 5.3 for detailed information										
3	7	0	6	9	4	Straight	Female	E-Series	D84	
3	7	0	6	9	9	Angled	Female	E-Series	D84	
M16 (D60) see chapter 5.4 for detailed information										
3	7	0	4	2	3	Straight	Female	G-Series	D60	
3	7	0	4	6	0	Angled	Female	G-Series	D60	

d	Cable length																		
X	X	X	X	0030...9990 cm*															

e	Cable type see chapter 6 for detailed information																		
5	3	0	0	3	2	PVC cable													
5	3	0	0	5	2	PUR cable													
5	3	0	1	1	2	Teflon® cable													
5	3	0	1	1	6	PUR cable													

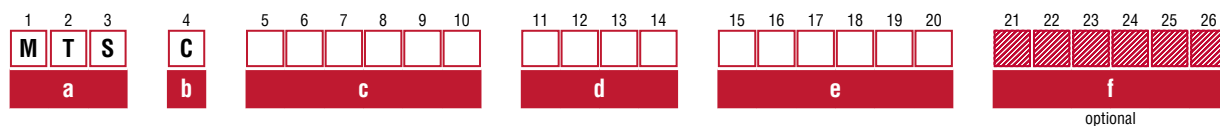
Wiring

Cable 530 032	Cable 530 052	Cable 530 112	Cable 530 116	M12 female connector	M16 female connector
Color	Color	Color	Color	Pin	Pin
GY	GY	GY	GY	4	1
PK	PK	PK	PK	3	2
YE	YE	YE	YE	1	3
GN	GN	GN	GN	2	4
BN	BN	BN	BN	7	5
WH	WH	WH	WH	8	6
—	—	BU	BU	Not connected	Not connected
—	—	RD	RD	Not connected	Not connected

*/ Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

7.4 CANbus

Example: 100 cm TMPU cable (530029) with M12 straight female connector (370423) and open cable end for R-Series CANbus (D60):
MTS-C-370423-0100-530029



a	Company name
M T S	MTS Sensors

b	Output
C	CANbus

c	Cable begin						
M12 (D34 / D54) <i>see chapter 5.3 for detailed information</i>							
3	7	0	6	7	7	Straight	Female R-Series D54
3	7	0	6	7	8	Angled	Female R-Series D54
M16 (D60 / D62) <i>see chapter 5.4 for detailed information</i>							
3	7	0	4	2	3	Straight	Female R-Series D60, D62
3	7	0	4	6	0	Angled	Female R-Series D60, D62

d	Cable length
X X X X	0030...9990 cm*

e	Cable type	see chapter 6 for detailed information
5 3 0 0 2 9	TMPU cable	
5 3 0 0 5 2	PUR cable	
5 3 0 1 1 2	Teflon® cable	
5 3 0 1 1 6	PUR cable	

Optional – instead of pigtail cable end

f	Cable end								
M16 (D62) see chapter 5.4 for detailed information									
3	7	0	4	2	3	Straight	Female	R-Series	D62
3	7	0	4	6	0	Angled	Female	R-Series	D62
Choose this option, if the cable end should have a connector instead of pig tail									

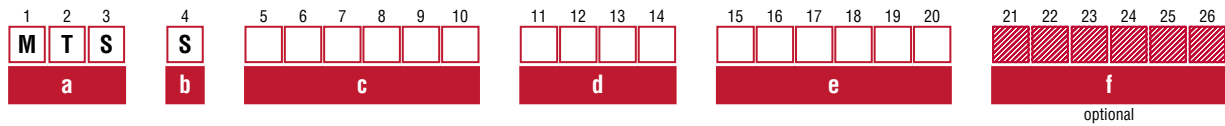
Wiring

Cable 530 029	Cable 530 052	Cable 530 112	Cable 530 116	M12 female connector	M16 female connector
Color	Color	Color	Color	Pin	Pin
GY	GY	GY	GY	5	1
PK	PK	PK	PK	Not connected	2
YE	YE	YE	YE	4	Not connected
GN	GN	GN	GN	Not connected	Not connected
BN	BN	BN	BN	2	5
WH	WH	WH	WH	3	6
BU	–	BU	BU	Not connected	Not connected
–	–	RD	RD	Not connected	Not connected

* / Length tolerance: –0 / +1 % (minimum –0 / +10 cm)

7.5 SSI

Example: 100 cm TPU cable (530029) with M16 straight female connector (370624) and open cable end for R-Series SSI (D70):
MTS-S-370624-0100-530029



a	Company name		
M	T	S	MTS Sensors

Cable length				
X	X	X	X	0030...9990 cm*

b	Output
s	SSI

e Cable type see chapter 6 for detailed information

c	Cable begin								
M12 (D84) <i>see chapter 5.3 for detailed information</i>									
3	7	0	6	9	4	Straight	Female	E-Series	D84
								GB-Series	D84
3	7	0	6	9	9	Angled	Female	E-Series	D84
								GB-Series	D84
M16 (D70) <i>see chapter 5.4 for detailed information</i>									
3	7	0	6	2	4	Straight	Female	R-Series	D70
5	6	0	7	7	9	Straight	Female	R-Series	D70

5	3	0	0	2	9	TMPU cable
5	3	0	0	3	2	PVC cable
5	3	0	0	5	2	PUR cable
5	3	0	1	1	2	Teflon® cable
5	3	0	1	1	6	PUR cable

Optional – instead of pigtail cable end

f	Cable end				
M16 (D70) <i>see chapter 5.4 for detailed information</i>					
3	7	0	6	2	5
				Straight	Male
					R-Series
					D70
<i>Choose this option, if the cable end should have a connector instead of pig tail.</i>					

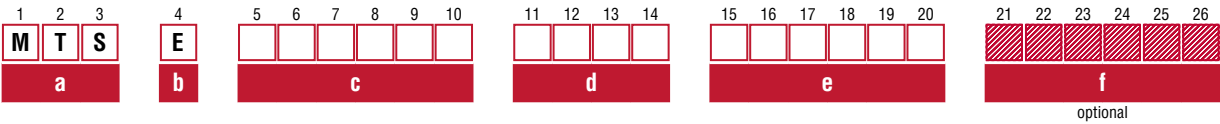
Wiring

Cable 530 029	Cable 530 032	Cable 530 052	Cable 530 112	Cable 530 116	M12 female connector	M16 female / male connector
Color	Color	Color	Color	Color	Pin	Pin
GY	GY	GY	GY	GY	4	1
PK	PK	PK	PK	PK	3	2
YE	YE	YE	YE	YE	1	3
GN	GN	GN	GN	GN	2	4
BN	BN	BN	BN	BN	7	5
WH	WH	WH	WH	WH	8	6
BU	–	–	BU	BU	Not connected	Not connected
–	–	–	RD	RD	Not connected	Not connected

*/ Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

7.6 EtherCAT® / EtherNet/IP™ / Powerlink / Profinet

Example: 100 cm PUR cable (530125) with M12 straight male connector (370523) and open cable end for R-Series Profinet (D58):
 MTS-E-370523-0100-530125



a	Company name
M T S	MTS Sensors

b	Output
E	EtherCAT® / EtherNet/IP™ / Powerlink / Profinet

c	Cable begin
M12 (D56 / D58) see chapter 5.3 for detailed information	
3 7 0 5 2 3	Straight Male R-Series EtherCAT® D56
	R-Series EtherNet/IP™ D56
	R-Series Profinet D58
	R-Series Powerlink D56
	R-Series V EtherNet/IP™ D56
	R-Series V EtherNet/IP™ D58
	R-Series V Profinet D58

d	Cable length
X X X X	0030...9990 cm*

e	Cable type see chapter 6 for detailed information
5 3 0 1 2 5	PUR cable

Optional – instead of pigtail cable end

f	Cable end
M12 (D56 / D58) see chapter 5.3 for detailed information	
3 7 0 5 2 3	Straight Male R-Series EtherCAT® D56
	R-Series EtherNet/IP™ D56
	R-Series Profinet D58
	R-Series Powerlink D56
	R-Series V EtherNet/IP™ D56
	R-Series V EtherNet/IP™ D58
	R-Series V Profinet D58
RJ45 (D56 / D58)	
3 7 0 6 4 9	Straight Male R-Series EtherCAT® D56
	R-Series EtherNet/IP™ D56
	R-Series Profinet D58
	R-Series Powerlink D56
	R-Series V EtherNet/IP™ D56
	R-Series V EtherNet/IP™ D58
	R-Series V Profinet D58

Choose this option, if the cable end should have a connector instead of pig tail.

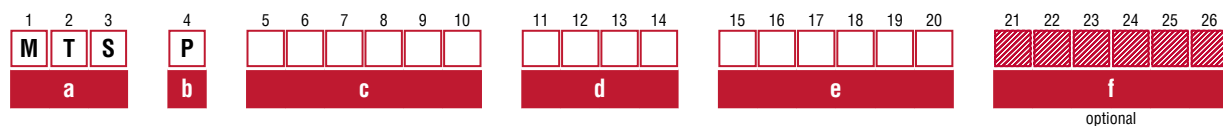
Wiring

Cable 530 125	M12 male connector
Color	Pin
YE	1
WH	2
OG	3
BU	4

*/ Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

7.7 Profibus

Example: 100 cm PVC cable (530040) with M16 straight male connector (370427) and open cable end for R-Series Profibus (D63):
MTS-P-370427-0100-530040



a	Company name
M T S	MTS Sensors

b	Output
P	Profibus

c	Cable begin
M12 (D53) see chapter 5.3 for detailed information	
5 6 0 8 8 4	Straight Male R-Series Profibus D53
3 7 0 5 1 5	Angled Male R-Series Profibus D53
5 6 0 8 8 5	Straight Female R-Series Profibus D53
3 7 0 5 1 4	Angled Female R-Series Profibus D53
M16 (D63) see chapter 5.4 for detailed information	
3 7 0 4 2 7	Straight Male R-Series Profibus D63
3 7 0 6 2 1	Angled Male R-Series Profibus D63
3 7 0 4 2 3	Straight Female R-Series Profibus D63
3 7 0 4 6 0	Angled Female R-Series Profibus D63

d	Cable length
X X X X	0030...9990 cm*

e	Cable type <i>see chapter 6 for detailed information</i>					
5	3	0	0	4	0	PVC cable (for M16 connectors)
5	3	0	1	0	9	PUR cable (for M12 connectors)

Optional – instead of pigtail cable end

f	Cable end
M12 (D53) see chapter 5.3 for detailed information	
5 6 0 8 8 4	Straight Male R-Series Profibus D53
5 6 0 8 8 5	Straight Female R-Series Profibus D53
Choose this option, if the cable end should have a connector instead of pig tail.	

Wiring

Cable 530 040	Cable 530 109	M12 female / male connector	M16 female / male connector
Color	Color	Pin	Pin
GN	GN	2	1
RD	RD	4	2
BK	–	Not connected	5
BU	–	Not connected	6
YE	–	Not connected	Not connected

* / Length tolerance: –0 / +1 % (minimum –0 / +10 cm)

7.8 Power supply for CANbus, EtherCAT®, EtherNet/IP™, Powerlink, Profibus & Profinet

Example: 100 cm PVC cable (530108) with M8 straight female connector (370504) and open cable end for power supply of R-Series Powerlink (D56): MTS-Z-370504-0100-530108

1

2

3

M

T

S

a

4

Z

b

5

6

7

8

9

10

c

11

12

13

14

d

15

16

17

18

19

20

e

a

Company name

M

T

S

MTS Sensors

d

Cable length

X

X

X

X

0030...9990 cm*

b

Output

Z

Power supply

e

Cable type *see chapter 6 for detailed information*

5

3

0

1

0

8

PVC cable

c

Cable begin

M8 (D53 / D54 / AXX / D56) *see chapter 5.2 for detailed information*

3

7

0

5

0

4

Straight Female R-Series CANbus

D54

R-Series EtherCAT®

D56

R-Series EtherNet/IP™

D56

R-Series Powerlink

D56

R-Series Profibus

D53

R-Series Profibus

AXX

R-Series V EtherNet/IP™

D56

M12 (D58) *see chapter 5.3 for detailed information*

3

7

0

6

7

7

Straight Female R-Series Profinet

D58

R-Series V EtherNet/IP™

D58

R-Series V Profinet

D58

Wiring

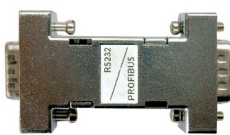
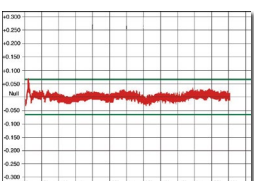
Cable 530 108	M8 female connector	M12 female connector
Color	Pin	Pin
BN	1	1
—	2	2
WH	3	3
—	4	4
GN	Not connected	Not connected

*/ Length tolerance: -0 / +1 % (minimum -0 / +10 cm)

8. Programming tools

Photo	Name & part number	Description	Series & output
	CANopen address programmer with straight connector Part no. 252 382-D62	Used for setting the node address to Temposonics® sensors with CANopen interface. The setup of the node address is normally done by the CANbus standard LMT-Service. Since some master systems do not support this standard, or the customer controller system can not handle it, this MTS service tool can be used for the direct setup of the sensor. All you need for using the programmer is a +24 VDC power supply to the sensor. The programming tool will be supplied by the Temposonics® position sensor.	R-Series
	CANopen address programmer with angled connector Part no. 252 382-D62A		CANbus
	Hand programmer for analog output Part no. 253 124	Easy teach-in-setups of stroke length and direction on desired zero / span positions. For sensors with 1 magnet.	R-Series
			Analog
	Programming kit Part no. 253 134-1 (EU)	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M16 female connector (6 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 3 × terminal clamp – D-sub female connector (9 pin), straight For sensors with 1 or 2 magnets. Software is available at: www.mtssensors.com	GB-Series
			Analog
	Programming kit Part no. 253 135-1 (EU)	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M16 female connector (7 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 6 × terminal clamp – D-sub female connector (9 pin), straight Software is available at: www.mtssensors.com	E-Series
			ET Analog
	Programming kit Part no. 253 135-1 (EU)	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M16 female connector (7 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 6 × terminal clamp – D-sub female connector (9 pin), straight Software is available at: www.mtssensors.com	R-Series
			SSI
	Programming kit Part no. 253 135-1 (EU)	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M16 female connector (7 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 6 × terminal clamp – D-sub female connector (9 pin), straight Software is available at: www.mtssensors.com	T-Series
			SSI

Photo	Name & part number	Description	Series & output
	Programming kit Part no. 253 145-1	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M16 female connector (6 pin), straight & 1 × banana connector – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 4 × terminal clamp – D-sub female connector (9 pin), straight Software is available at: www.mtssensors.com	G-Series Analog
			G-Series Start/Stop
	Cabinet programmer for analog output Part no. 253 408	Features snap-in mounting on standard DIN rail (35 mm). This programmer can be permanently mounted in a control cabinet and includes a program / run switch. For sensors with 1 magnet.	R-Series Analog
			GB-Series Analog E-Series ET Analog T-Series Analog (standard)
	Hand programmer for analog output Part no. 253 853	Easy teach-in-setups of stroke length and direction on desired zero / span positions. For sensors with 1 magnet.	G-Series Analog
			GB-Series Analog
	Programming kit Part no. 254 555	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M12 female connector (5 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with M16 female connector (6 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 3 × terminal clamp – D-sub female connector (9 pin), straight 1 × USB cable Software is available at: www.mtssensors.com	GB-Series Analog
			GB-Series Analog

Photo	Name & part number	Description	Series & output
	Programming kit Part no. 254 590	Kit includes: 1 × interface converter box, 1 × power supply 1 × cable (60 cm) with M12 female connector (8 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with M16 female connector (7 pin), straight – D-sub female connector (9 pin), straight 1 × cable (60 cm) with 6 × terminal clamp – D-sub female connector (9 pin), straight 1 × USB cable Software is available at: www.mtsensors.com	GB-Series SSI
	Profibus node address programmer Part no. 280 640	Used for setting the slave address to Temposonics® sensors with Profibus-DP interface. The setup of slave address is normally done by the Profibus standard service SetSlaveAddress. Since some master systems do not support this standard, or the customer controller system can not handle it, this MTS service tool can be used for the direct setup of the sensor. The programmer and the sensor will be supplied by the included power supply.	R-Series Profibus
	Profibus master simulator Part no. 401 727 Profibus adapter cable for output D53 Part no. 252 383 Profibus adapter cable for output D63 Part no. 401 726	The master simulator can be used to check the sensors functions and to change the slave address. The magnet positions can be read out and the diagnostic data as well.	R-Series Profibus
	Linearity diagram Part no. 625 096	DIN A4 printout with sensor data and graphic with the linearity gradient. This gradient can be used to choose a special linear segment or for linearity correction in sections.	R-Series Analog CANbus SSI Profibus EtherCAT® EtherNet/IP™ Powerlink Profinet R-Series V EtherNet/IP™ Profinet
	IX350 / AC SSI indicator Part no. IX350 / AC	For additional information see www.motrona.com	R-Series SSI E-Series SSI GB-Series SSI T-Series SSI

9. TempoLink smart assistant for R-Series V

YOUR SMART ASSISTANT

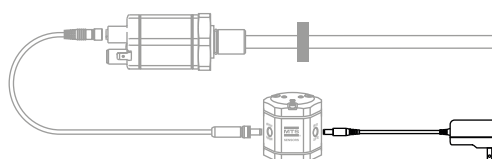
TempoLink smart assistant is an accessory of the R-Series V family of sensors. It supports setup of the sensor in the application as well as providing additional status information for diagnostics of the sensor.

ORDER CODE

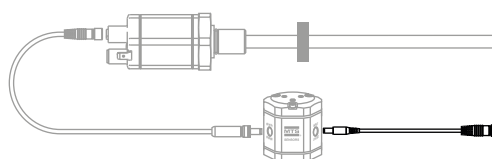
1	2	3	4	5	6	7	8
T	L		0	E	M		
a		b	c	d			

a	Type
T L	TempoLink smart assistant kit
b	Power Supply
1	Plug-in power supply with plug adapters (AU, CCC, EU, UK, US)
2	Cable for insertion in existing sensor power supply with sensor mating connector and barrel connector
c	Options
0	No options
d	Adapter cable for connection to R-Series V
E M 0 8	Cable with M8 female connector (4 pin) for connection type D56 (EtherNet/IP™) (part no. 254 887-1)
E M 1 2	Cable with M12 female connector (4 pin) for connection type D58 (EtherNet/IP™ / Profinet) (part no. 254 897-1)

Plug-in power supply with plug adapters (AU, CCC, EU, UK, US)



Cable for insertion in existing sensor power supply with sensor mating connector and barrel connector



DELIVERY

TempoLink smart assistant kit

- TempoLink smart assistant
- Power supply or cable for insertion in existing sensor power supply with sensor mating connector and barrel connector
- Adapter cable to connect TempoLink smart assistant to R-Series V sensor
- USB cable for optional connection of TempoLink smart assistant to a computer

Adapter cables to connect TempoLink smart assistant to sensors of R-Series V can be ordered separately



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Document Part Number:
551444 Revision H (EN) 09/2019



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