

Data Sheet

R-Series V RDV PROFINET

Magnetostrictive Linear Position Sensors

- Space-saving installation due to detached sensor electronics housing
- Backwards compatible with RD4 generation
- All advantages of the R-Series V



V
THE NEW GENERATION

MEASURING TECHNOLOGY

The absolute, linear position sensors provided by Temposonics rely on the company's proprietary magnetostrictive technology, which can determine position with a high level of precision and robustness. Each Temposonics position sensor consists of a ferromagnetic waveguide, a position magnet, a strain pulse converter and a supporting electronics. The magnet, connected to the object in motion in the application, generates a magnetic field at its location on the waveguide. A short current pulse is applied to the waveguide. This creates a momentary radial magnetic field and torsional strain on the waveguide. The momentary interaction of the magnetic fields releases a torsional strain pulse that propagates the length of the waveguide. When the ultrasonic wave reaches the beginning of the waveguide it is converted into an electrical signal. Since the speed of the ultrasonic wave in the waveguide is precisely known, the time required to receive the return signal can be converted into a linear position measurement with both high accuracy and repeatability.

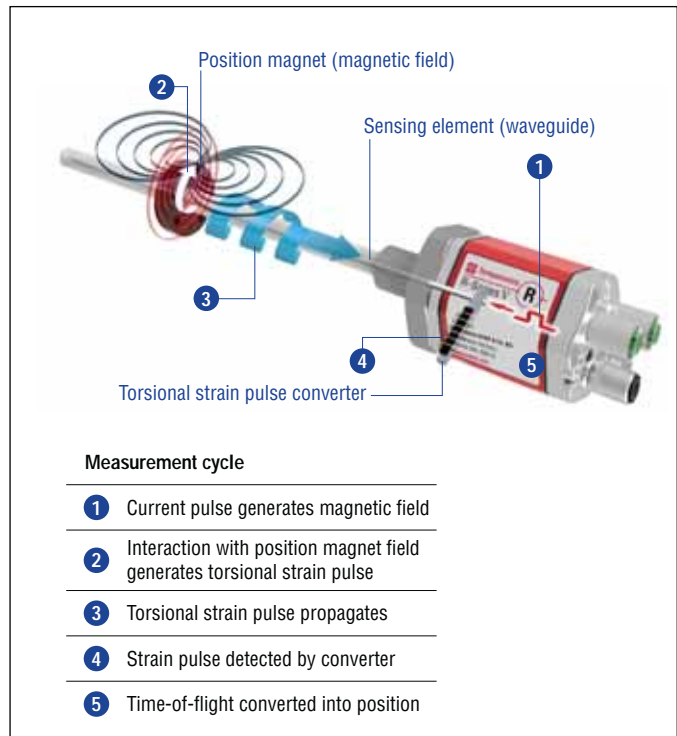
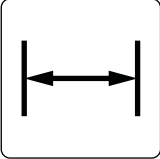
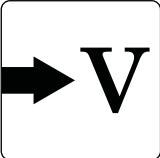



Fig. 1: Time-of-flight based magnetostrictive position sensing principle

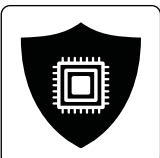
R-SERIES V RDV PROFINET

The Temposonics® R-Series V brings very powerful sensor performance to meet the many demands of your application. The sensor RDV is the version of the R-Series V with a detached sensor electronics. The main advantages of the version RDV are:

- 

Space-saving installation
The detached sensor electronics allow space-saving installation of the compact measuring rod.
- 

R-Series V platform
The detached sensor electronics is based on the R-Series V and offers all advantages of the innovative series.
- 

Backwards compatible
Mechanically and electrically, the sensors are backwards compatible with the RD4. This means that the sensor rod or the sensor electronics can be replaced without any problems.
- 

Protection of the sensor electronics
By separating the robust sensor rod from the complex evaluation electronics, improved protection against process influences can be realized.

In addition the R-Series V PROFINET scores with the following features:



30 positions simultaneously
The R-Series V PROFINET can detect and report the position and velocity of up to 30 magnets simultaneously.



R-Series V PROFINET
In addition to the measured position value via the PROFINET protocol further data about the current sensor status, such as the total distance travelled, the internal temperature and the total operating hours, can be displayed for diagnostic purposes.

All settings under control with the sensor assistants for the R-Series V

The TempoLink® and the TempoGate® smart assistants support you in setup and diagnostics of the R-Series V. For more information of these assistants please see the data sheets:

- TempoLink® smart assistant
([Document part number: 552070](#))
- TempoGate® smart assistant
([Document part number: 552110](#))



TECHNICAL DATA

| Output | | | | | |
|-------------------------------------|--|-------------|---------------|---------------|-----------|
| Interface | PROFINET RT PROFINET IRT version 2.3 | | | | |
| Data protocol | Linear profile and encoder profile V4.2 | | | | |
| Data transmission rate | 100 MBit/s (maximum) | | | | |
| Measured value | Position, velocity/option: Simultaneous multi-position and multi-velocity measurements up to 30 magnets | | | | |
| Measurement parameters | | | | | |
| Resolution: Position | 0.5...100 µm (selectable) | | | | |
| Cycle time | Stroke length | ≤ 715 mm | ≤ 2000 mm | ≤ 4675 mm | ≤ 5080 mm |
| | Cycle time | 500 µs | 1000 µs | 2000 µs | 4000 µs |
| Linearity deviation ^{1, 2} | Stroke length | ≤ 500 mm | > 500 mm | | |
| | Linearity deviation | ≤ ±50 µm | < 0.01 % F.S. | | |
| | Optional internal linearization: Linearity tolerance (applies for the first magnet for multi-position measurement) | | | | |
| | Stroke length | 25...300 mm | 300...600 mm | 600...1200 mm | |
| | typical | ±15 µm | ±20 µm | ±25 µm | |
| maximum | ±25 µm | ±30 µm | ±50 µm | | |
| Repeatability | < ±0.001 % F.S. (minimum ±2.5 µm) typical | | | | |
| Hysteresis | < 4 µm typical | | | | |
| Temperature coefficient | < 15 ppm/K typical | | | | |
| Operating conditions | | | | | |
| Operating temperature | -40...+85 °C (-40...+185 °F) | | | | |
| Humidity | 90 % relative humidity, no condensation | | | | |
| Ingress protection | Sensor electronics IP67 (with professional mounted housing and connectors) Measuring rod with connecting cable for side cable entry IP65 Measuring rod with single wires and flat connector with bottom cable entry IP30 | | | | |
| Shock test | 100 g/11 ms, IEC standard 60068-2-27 | | | | |
| Vibration test | 10 g/10...2000 Hz, IEC standard 60068-2-6 (excluding resonant frequencies) | | | | |
| EMC test | Electromagnetic emission according to EN 61000-6-3 Electromagnetic immunity according to EN 61000-6-2 The RDV sensors fulfill the requirements of the EMC directives 2014/30/EU, UKSI 2016 No. 1091 and TR CU 020/2011 under the condition of an EMC compliant installation ³ | | | | |
| Operating pressure | 350 bar (5076 psi)/700 bar (10,153 psi) peak (at 10 × 1 min) for sensor rod | | | | |
| Magnet movement velocity | Any | | | | |
| Design/Material | | | | | |
| Sensor electronics housing | Aluminum (painted), zinc die cast | | | | |
| Sensor rod with flange | Stainless steel 1.4301 (AISI 304) | | | | |
| RoHS compliance | The used materials are compliant with the requirements of EU Directive 2011/65/EU and EU Regulation 2015/863 as well as UKSI 2022 No. 622 | | | | |
| Stroke length | 25...2540 mm (1...100 in.) for pressure-fit flange »S« 25...5080 mm (1...200 in.) for all threaded flanges | | | | |
| Mechanical mounting | | | | | |
| Mounting position | Any | | | | |
| Mounting instruction | Please consult the technical drawings on page 5 and page 6 and the operation manual (document number: 551973) | | | | |

Technical data “Electrical connection” on [page 4](#)

1/ With position magnet # 251 416-2

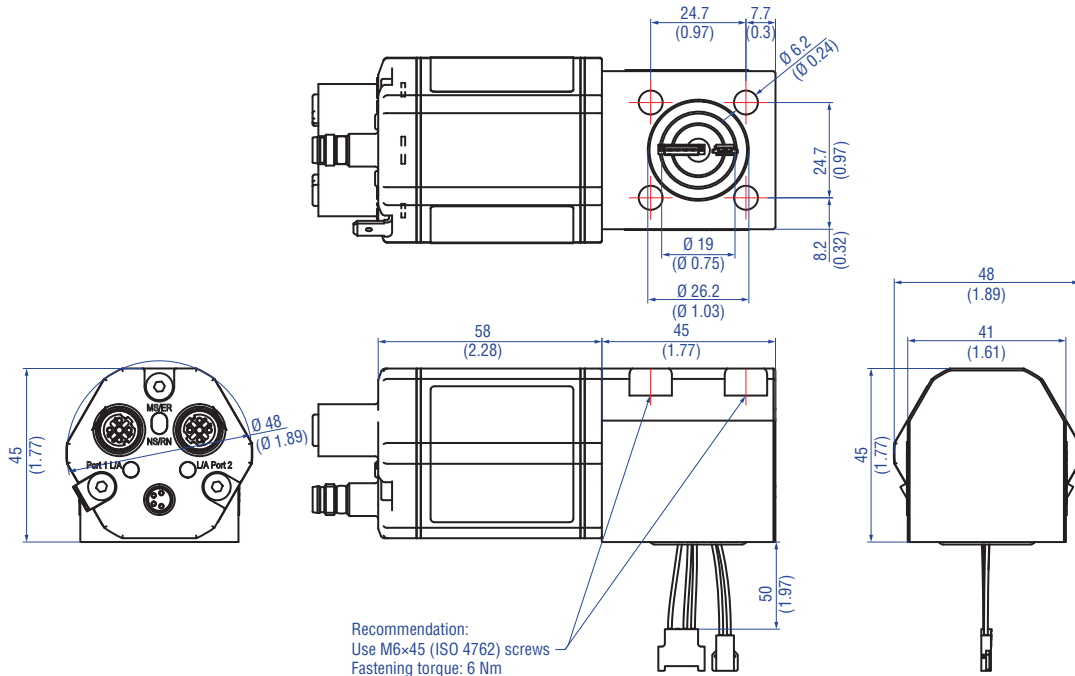
2/ For rod style »S« the linearity deviation can be higher in the first 30 mm (1.2 in.) of stroke length

3/ The cable between the sensor element and the sensor electronics housing must be mounted in an appropriately shielded environment

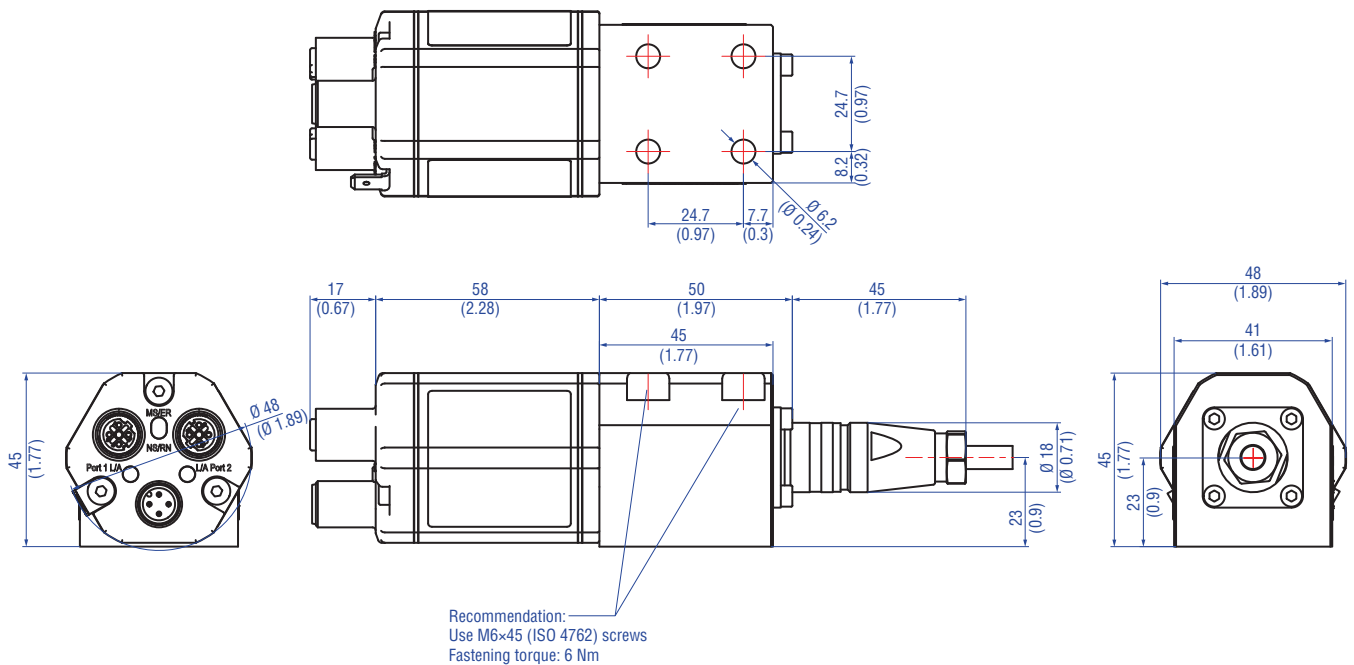
| Electrical connection | |
|------------------------|--|
| Connection type | 2 × M12 female connectors (5 pin), 1 × M12 male connector (4 pin) or 2 × M12 female connectors (5 pin), 1 × M8 male connector (4 pin) |
| Operating voltage | +12...30 VDC ±20 % (9.6...36 VDC) |
| Power consumption | Less than 4 W typical |
| Dielectric strength | 500 VDC (DC ground to machine ground) |
| Polarity protection | Up to -36 VDC |
| Overvoltage protection | Up to 36 VDC |

TECHNICAL DRAWING

RDV with bottom cable entry, example: Connector D56 (connector outlet)



RDV with side cable entry, example: Connector D58 (connector outlet)



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

Fig. 2: Temposonics® RDV sensor electronics housing

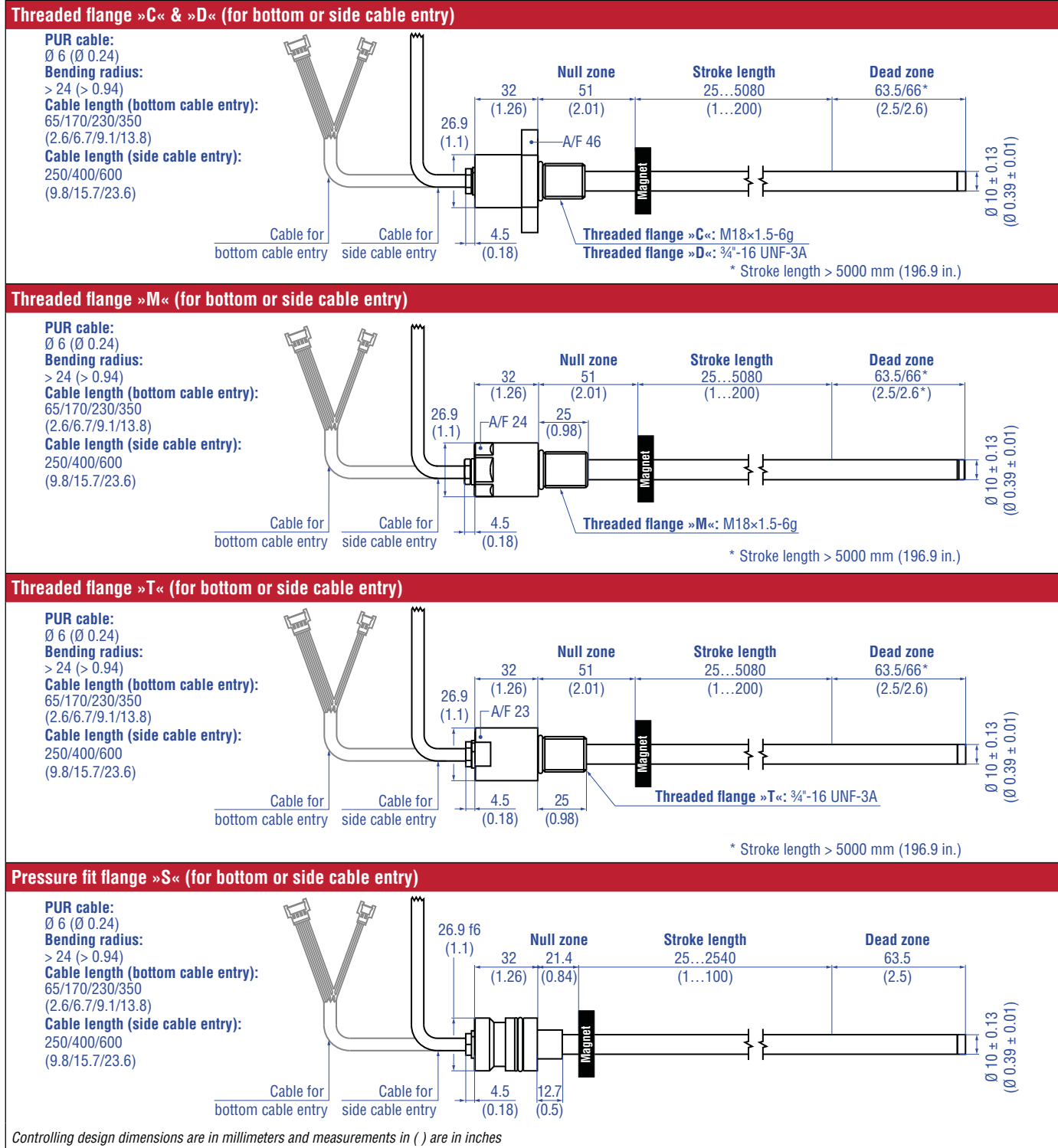


Fig. 3: Temposonics® RDV flange types

CONNECTOR WIRING




| D58 | | |
|---|------------|----------------------|
| Port 1 – Signal | | |
| M12 female connector (D-coded) | Pin | Function |
|  <p>View on sensor</p> | 1 | Tx (+) |
| | 2 | Rx (+) |
| | 3 | Tx (-) |
| | 4 | Rx (-) |
| Port 2 – Signal | | |
| M12 female connector (D-coded) | Pin | Function |
|  <p>View on sensor</p> | 1 | Tx (+) |
| | 2 | Rx (+) |
| | 3 | Tx (-) |
| | 4 | Rx (-) |
| Power supply | | |
| M12 male connector (A-coded) | Pin | Function |
|  <p>View on sensor</p> | 1 | +12...30 VDC (±20 %) |
| | 2 | Not connected |
| | 3 | DC Ground (0 V) |
| | 4 | Not connected |

Fig. 4: Connector wiring D58

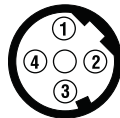


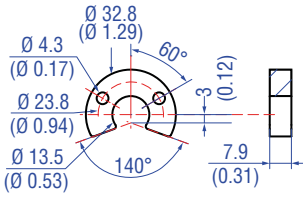
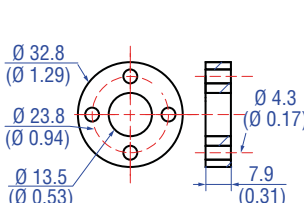
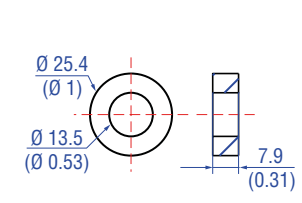
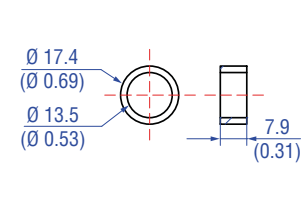
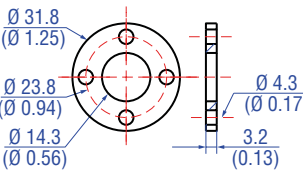
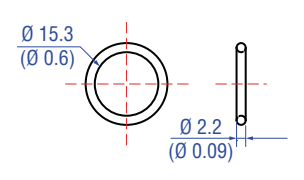
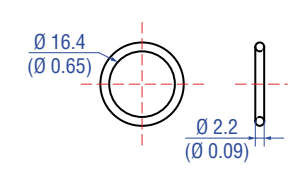
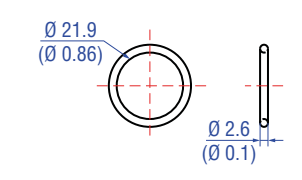
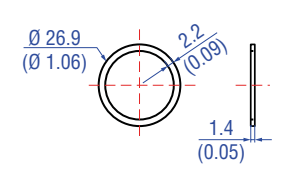
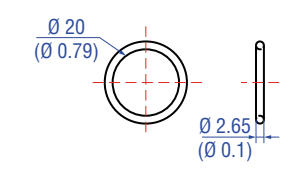
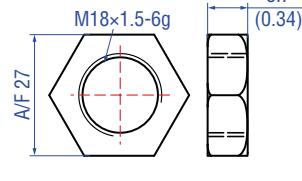
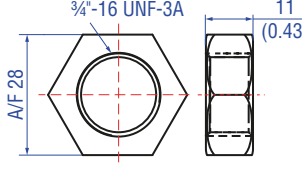
| D56 | | |
|--|------------|----------------------|
| Port 1 – Signal | | |
| M12 female connector (D-coded) | Pin | Function |
|  <p>View on sensor</p> | 1 | Tx (+) |
| | 2 | Rx (+) |
| | 3 | Tx (-) |
| | 4 | Rx (-) |
| Port 2 – Signal | | |
| M12 female connector (D-coded) | Pin | Function |
|  <p>View on sensor</p> | 1 | Tx (+) |
| | 2 | Rx (+) |
| | 3 | Tx (-) |
| | 4 | Rx (-) |
| Power supply | | |
| M8 male connector | Pin | Function |
|  <p>View on sensor</p> | 1 | +12...30 VDC (±20 %) |
| | 2 | Not connected |
| | 3 | DC Ground (0 V) |
| | 4 | Not connected |

Fig. 5: Connector wiring D56

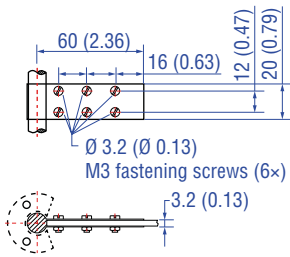
FREQUENTLY ORDERED ACCESSORIES – Additional options available in our [Accessories Catalog](#) 551444

| Position magnets | | | |
|---|---|--|---|
|  |  |  |  |
| U-magnet OD33 Part no. 251 416-2 | Ring magnet OD33 Part no. 201 542-2 | Ring magnet OD25.4 Part no. 400 533 | Ring magnet OD17.4 Part no. 401 032 |
| 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) | 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) | Material: PA ferrite Weight: Approx. 10 g Surface pressure: Max. 40 N/mm ² Operating temperature: -40...+105 °C (-40...+221 °F) | Material: PA neobond Weight: Approx. 5 g Surface pressure: Max. 20 N/mm ² Operating temperature: -40...+105 °C (-40...+221 °F) |
| Marked version for sensors with internal linearization: Part no. 254 226 | Marked version for sensors with internal linearization: Part no. 253 620 | Marked version for sensors with internal linearization: Part no. 253 621 | |

| Magnet spacer | | | |
|--|---|--|---|
|  |  |  |  |
| Magnet spacer Part no. 400 633 | O-ring for threaded flange M18×1.5-6g Part no. 401 133 | O-ring for threaded flange ¾"-16 UNF-3A Part no. 560 315 | O-ring for pressure fit flange Ø 26.9 mm Part no. 560 705 |
| Material: Aluminum Weight: Approx. 5 g Surface pressure: Max. 20 N/mm ² Fastening torque for M4 screws: 1 Nm | Material: Fluoroelastomer Durometer: 75 ± 5 Shore A Operating temperature: -40...+204 °C (-40...+400 °F) | Material: Fluoroelastomer Durometer: 75 ± 5 Shore A Operating temperature: -40...+204 °C (-40...+400 °F) | Material: Nitrile rubber Operating temperature: -53...+107 °C (-65...+225 °F) |

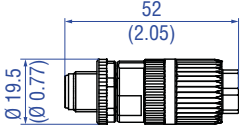
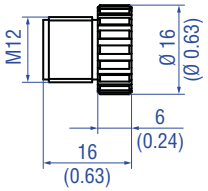
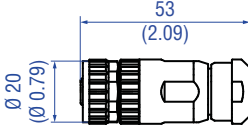
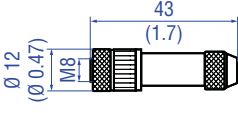
| O-rings | | Mounting accessories | |
|--|--|--|---|
|  |  |  |  |
| Back-up ring for pressure fit flange Ø 26.9 mm Part no. 560 629 | O-ring for mounting block with bottom entry Part no. 561 435 | Hex jam nut M18×1.5-6g Part no. 500 018 | Hex jam nut ¾"-16 UNF-3A Part no. 500 015 |
| Material: Polymyte Durometer: 90 Shore A | Material: FKM Durometer: 80± 5 Shore A Operating temperature: -15...+200 °C (5...+392 °F) | Material: Steel, zinc plated | Material: Steel, zinc plated |





Mounting accessory







Fixing clip Part no. 561 481

Application: Used to secure sensor rods (\varnothing 10 mm (\varnothing 0.39 in.)) when using an U-magnet or block magnet
Material: Brass, non-magnetic

| Cable connectors* – Signal | | Cable connectors* – Power | |
|---|--|--|---|
|  |  |  |  |
| M12 D-coded male connector (4 pin), straight Part no. 370 523 | M12 connector end cap Part no. 370 537 | M12 A-coded female connector (4 pin/5 pin), straight Part no. 370 677 | M8 female connector (4 pin), straight Part no. 370 504 |
| 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 | 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 | 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 | 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 |

| Cables | | Cable sets | |
|--|---|---|---|
|  |  |  |  |
| PUR signal cable Part no. 530 125 | PVC power cable Part no. 530 108 | Signal cable with M12 D-coded male connector (4 pin), straight – M12 D-coded, male connector (4 pin), straight Part no. 530 064 | Signal cable with M12 D-coded male connector (4 pin), straight – RJ45 male connector, straight Part no. 530 065 |
| Material: PUR jacket; green Features: Cat 5, highly flexible, halogen free, suitable for drag chains, mostly oil & flame resistant Cable Ø: 6.5 mm (0.26 in.) Cross section: 2 × 2 × 0.35 mm ² (22 AWG) Bending radius: 5 × D (fixed installation) Operating temperature: –20...+60 °C (–4...+140 °F) | Material: PVC jacket; gray Features: Shielded, flexible, mostly flame resistant Cable Ø: 4.9 mm (0.19 in.) Cross section: 3 × 0.34 mm ² Bending radius: 5 × D (fixed installation) Operating temperature: –30...+80 °C (–22...+176 °F) | 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) | 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) |

*/ Follow the manufacturer's mounting instructions
Controlling design dimensions are in millimeters and measurements in () are in inches
Color of connectors and cable jacket may change. Colors of the cores and technical properties remain unchanged.

| Cable sets | | Programming tools | |
|--|---|--|---|
|  |  |  |  |
| <p>Power 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.))</p> | <p>Power cable with M12 A-coded female connector (5 pin), straight – pigtail Part no. 370 673</p> | <p>TempoLink® kit for Tempsonics® R-Series V Part no. TL-1-0-EM08 (D56) Part no. TL-1-0-EM12 (D58)</p> | <p>TempoGate® smart assistant for Tempsonics® R-Series V Part no. TG-C-0-Dxx (xx indicates the number of R-Series V sensors that can be connected (even numbers only))</p> |
| <p>Material: PUR jacket; gray Features: Shielded Cable Ø: 5 mm (0.2 in.) Operating temperature: -40...+90 °C (-40...+194 °F)</p> | <p>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)</p> | <ul style="list-style-type: none"> • Connect wirelessly via Wi-Fi enabled device or via USB with the diagnostic tool • Simple connectivity to the sensor via 24 VDC power line (permissible cable length: 30 m) • User friendly interface for mobile devices and desktop computers • See data sheet “TempoLink® smart assistant” (document part no.: 552070) for further information | <ul style="list-style-type: none"> • OPC UA server for diagnostics of the R-Series V • For installation in the control cabinet • Connection via LAN and Wi-Fi • See data sheet “TempoGate® smart assistant” document part no.: 552110 for further information |

Color of connectors and cable jacket may change. Colors of the cores and technical properties remain unchanged.

ORDER CODE

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| R | D | V | | | | | | | | | | D | 5 | | 1 | U | 4 | | |
| a | | | b | c | d | | | | | | e | f | | | g | h | | | |

| a | Design |
|-------|---------------------------------------|
| R D V | Detached sensor electronics "Classic" |

| b | Design |
|---|---------------------------------------|
| C | Threaded flange M18×1.5-6g (A/F 46) |
| D | Threaded flange ¾"-16 UNF-3A (A/F 46) |
| M | Threaded flange M18×1.5-6g (A/F 24) |
| S | Pressure fit flange Ø 26.9 mm f6 |
| T | Threaded flange ¾"-16 UNF-3A (A/F 23) |

| c | Mechanical options |
|------------------------|---|
| For side cable entry | |
| A | PUR cable with M16 connector, 250 mm length |
| B | PUR cable with M16 connector, 400 mm length |
| C | PUR cable with M16 connector, 600 mm length |
| For bottom cable entry | |
| 2 | Single wires with flat connector, 65 mm length |
| 4 | Single wires with flat connector, 170 mm length |
| 5 | Single wires with flat connector, 230 mm length |
| 6 | Single wires with flat connector, 350 mm length |

| d | Stroke length |
|--|---|
| X X X X M | Flange »S«: 0025...2540 mm Flange »C«, »D«, »M«, »T«: 0025...5080 mm |
| Stroke length (mm) | Ordering steps |
| 25... 500 mm | 5 mm |
| 500... 750 mm | 10 mm |
| 750...1000 mm | 25 mm |
| 1000...2500 mm | 50 mm |
| 2500...5080 mm | 100 mm |
| X X X X U | Flange »S«: 001.0...100.0 in. Flange »C«, »D«, »M«, »T«: 001.0...200.0 in. |
| Stroke length (in.) | Ordering steps |
| 1... 20 in. | 0.2 in. |
| 20... 30 in. | 0.4 in. |
| 30... 40 in. | 1.0 in. |
| 40...100 in. | 2.0 in. |
| 100...200 in. | 4.0 in. |
| Non standard stroke lengths are available; must be encoded in 5 mm/0.1 in. increments | |

| e | Number of magnets |
|-----|--|
| X X | 01...30 position(s) (1...30 magnet(s)) |

| f | Connection type |
|-------|--|
| D 5 8 | 2×M12 female connectors (D-coded), 1×M12 male connector (A-coded) |
| D 5 6 | 2×M12 female connectors (D-coded), 1×M8 male connector |

| g | System |
|---|----------|
| 1 | Standard |

| h | Output |
|---------|--|
| U 4 0 2 | PROFINET RT & IRT, position and velocity, linear profile (1...30 magnet(s)) |
| U 4 0 1 | PROFINET RT & IRT, position and velocity, encoder profile (1 magnet) |
| U 4 1 2 | PROFINET RT & IRT, position and velocity, linear profile, internal linearization (1...30 magnet(s)) |
| U 4 1 1 | PROFINET RT & IRT, position and velocity, encoder profile, internal linearization (1 magnet) |

NOTICE

- Select the linear profile (U402) in **h** "Output" for multi-position measurement.
- Specify number of magnets for your application and order the magnets separately.
- The number of magnets is limited by the stroke length.
The minimum allowed distance between magnets (i.e. front face of one to the front face of the next one) is 75 mm (3 in.).
- Use magnets of the same type for multi-position measurement.
- If the option for internal linearization (U411, U412) in **h** "Output" is chosen, select a suitable magnet.

DELIVERY



RDV-C/-D/-M/-T:
Sensor, O-ring
RDV-S:
Sensor, O-ring, back-up ring

Accessories have to be ordered separately.

Manuals, Software & 3D Models available at:
www.temposonics.com

GLOSSARY

E

Encoder Profile

The encoder profile corresponds to the specification of the encoder profile V4.2 (PNO no. 3.162). With this profile, the position and the velocity of one magnet can be measured and transferred simultaneously. (→ Linear Profile)

Extrapolation

The native measurement cycle time of a sensor increases with the stroke length. With extrapolation, the sensor is able to report data faster than the native cycle time, independent of the stroke length of the sensor. Without extrapolation, if data is requested faster than the native cycle time, the last measured value is repeated.

G

GSDML

The properties and functions of a PROFINET IO field device are described in a GSDML file (General Station Description). The XML-based GSDML file contains all relevant data that are important for the implementation of the device in the controller as well as for data exchange during operation. The GSDML file of the R-Series V PROFINET is available on the homepage www.temposonics.com.

I

Internal Linearization

The internal linearization offers an improved linearity for an overall higher accuracy of the position measurement. The internal linearization is set for the sensor during production.

IRT Filter

With PROFINET IRT (Isochronous Real Time) a clock-synchronous data transmission takes place. The application, the data transmission as well as the device cycle are synchronous. IRT enables a clock-synchronous data exchange with a minimum cycle time of 250 µs in the network. The R-Series V PROFINET supports PROFINET RT and IRT. (→ RT)

L

Linear Profile

The linear profile was developed by Temposonics and is tailored to the characteristics of magnetostrictive position sensors. With this profile, the positions and velocities of up to 30 magnets can be reported and transferred simultaneously. (→ Encoder Profile)

M

Multi-position measurement

During the measurement cycle, the positions of every magnet on the sensor are simultaneously reported. The velocity is continuously calculated based on these changing position values as the magnets are moved.

P

PROFINET

PROFINET (Process Field Network) is an Industrial Ethernet interface and is managed by the PROFIBUS Nutzerorganisation e.V. (PNO). The R-Series V PROFINET and its corresponding GSDML file are certified by the PNO.

R

RT

With PROFINET RT (Real Time) the data exchange is without clock synchronization. In this case, the application, the data transmission and the field devices operate according to their own processing cycle. The R-Series V PROFINET supports PROFINET RT and IRT. (→ IRT)

UNITED STATES 3001 Sheldon Drive
Temposonics, LLC Cary, N.C. 27513
Americas & APAC Region Phone: +1 919 677-0100
E-mail: info.us@temposonics.com

GERMANY Auf dem Schüffel 9
Temposonics 58513 Lüdenscheid
GmbH & Co. KG Phone: +49 2351 9587-0
EMEA Region & India E-mail: info.de@temposonics.com

ITALY Phone: +39 030 988 3819
Branch Office E-mail: info.it@temposonics.com

FRANCE Phone: +33 6 14 060 728
Branch Office E-mail: info.fr@temposonics.com

UK Phone: +44 79 21 83 05 86
Branch Office E-mail: info.uk@temposonics.com

SCANDINAVIA Phone: +46 70 29 91 281
Branch Office E-mail: info.sca@temposonics.com

CHINA Phone: +86 21 2415 1000 / 2415 1001
Branch Office E-mail: info.cn@temposonics.com

JAPAN Phone: +81 3 6416 1063
Branch Office E-mail: info.jp@temposonics.com

Document Part Number:
552139 Revision A (EN) 11/2022



temposonics.com