



perfect in sensors.

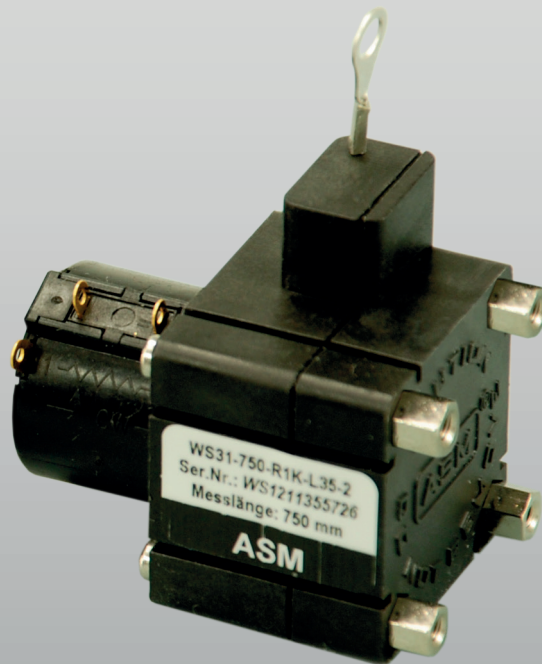
POSIWIRE®

Cable Extension Position Sensors

WS31

Compact OEM sensors for large order volumes

Datasheet



Copyright

© ASM GmbH
Am Bleichbach 18-24
85452 Moosinning
Germany

The information presented in this data sheet does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by ASM for any consequence of its use. Publication thereof does not convey nor imply any license under patent or industrial or intellectual property rights. Applications that are described herein for any of these products are for illustrative purpose only.

ASM makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

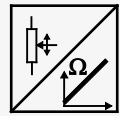
Analog output	4
Specifications	4
Order code	5
Incremental encoder output	6
Specifications	6
Order code	7
Dimensions	8
Measurement range 250/500/750 mm, R1K, mounting brackets	8
Measurement range 250/500/750 mm, R1K, spacer nuts	9
Measurement range 500 mm, IE24, mounting brackets	10
Measurement range 500 mm, IE24, spacer nuts	11
Output specifications	12
Analog outputs	12
Voltage divider R1K	12
Incremental outputs	13
Signal conditioner IE24LI and IE24HI	13
Accessories	15
Mounting bracket WS31 / WS31C	15

Analog output



Compact OEM sensors for large order volumes

- Measurement range up to 750 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Analog output



Specifications

Output	R1K = Potentiometer 1 KΩ
Resolution	Analog: quasi infinite
Linearity	±0.35% f.s., other values on request
Sensing device	Precision potentiometer
Housing material	Plastic, aluminium measuring cable: stainless steel
Protection class	IP50
Connection	Potentiometer (soldering eye)
Temperature range	-15 ... +60 °C, max. 85 % RH, non condensing
Weight	Approx. 95 g
Pull-out force	250 mm: 1.5 N 500 mm: 1.7 N 750 mm: 1.2 N
EMC	EN 61326-1:2013

Order code

WS31 – 1 – 2 – 3 – 4

1 Measurement range (in mm)

250 / 500 / 750

2 Output

R1K = Potentiometer 1 KΩ

3 Linearity

L35 = ±0.35%

4 Sensor mounting

1 = Mounting brackets
2 = Spacer nuts

Order example

WS31 – 250 – R1K – L35 – 1

Incremental encoder output



Compact OEM sensor for large order volumes

- Measurement range up to 500 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Incremental encoder output



Specifications

Output	IE24LI = Incremental encoder TTL compatible IE24HI = Incremental encoder HTL compatible
Resolution	10 pulses / mm (40 edges / mm)
Linearity	±0.20% f.s.
Sensing device	Incremental encoder
Housing material	Plastic, aluminium measuring cable: stainless steel
Protection class	IP50
Connection	Cable output radial, length approx. 3 m
Temperature range	0 ... +60 °C, max. 85 % RH, non condensing
Weight	Approx. 95 g
Pull-out force	1.7 N
EMC	EN 61326-1:2013



Order code

WS31 – 1 – 2 – 3 – 4

1 Measurement range (in mm)

500

2 Resolution

10 = 10 pulses / mm

3 Output

IE24LI = Incremental encoder TTL compatible

IE24HI = Incremental encoder HTL compatible

4 Mounting

1 = Mounting brackets

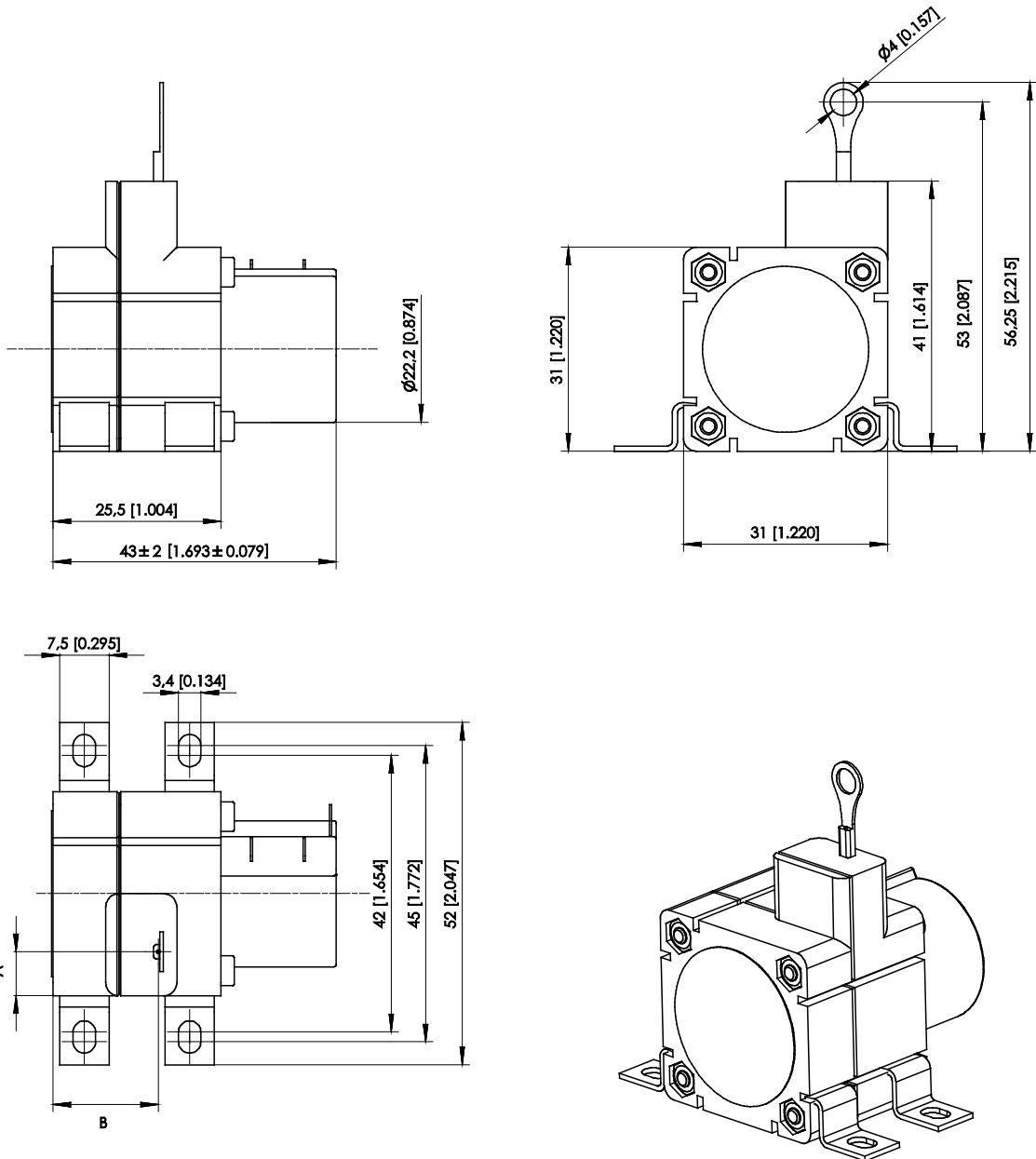
2 = Spacer nuts

Order example

WS31 – 500 – 10 – IE24HI – 1

Dimensions

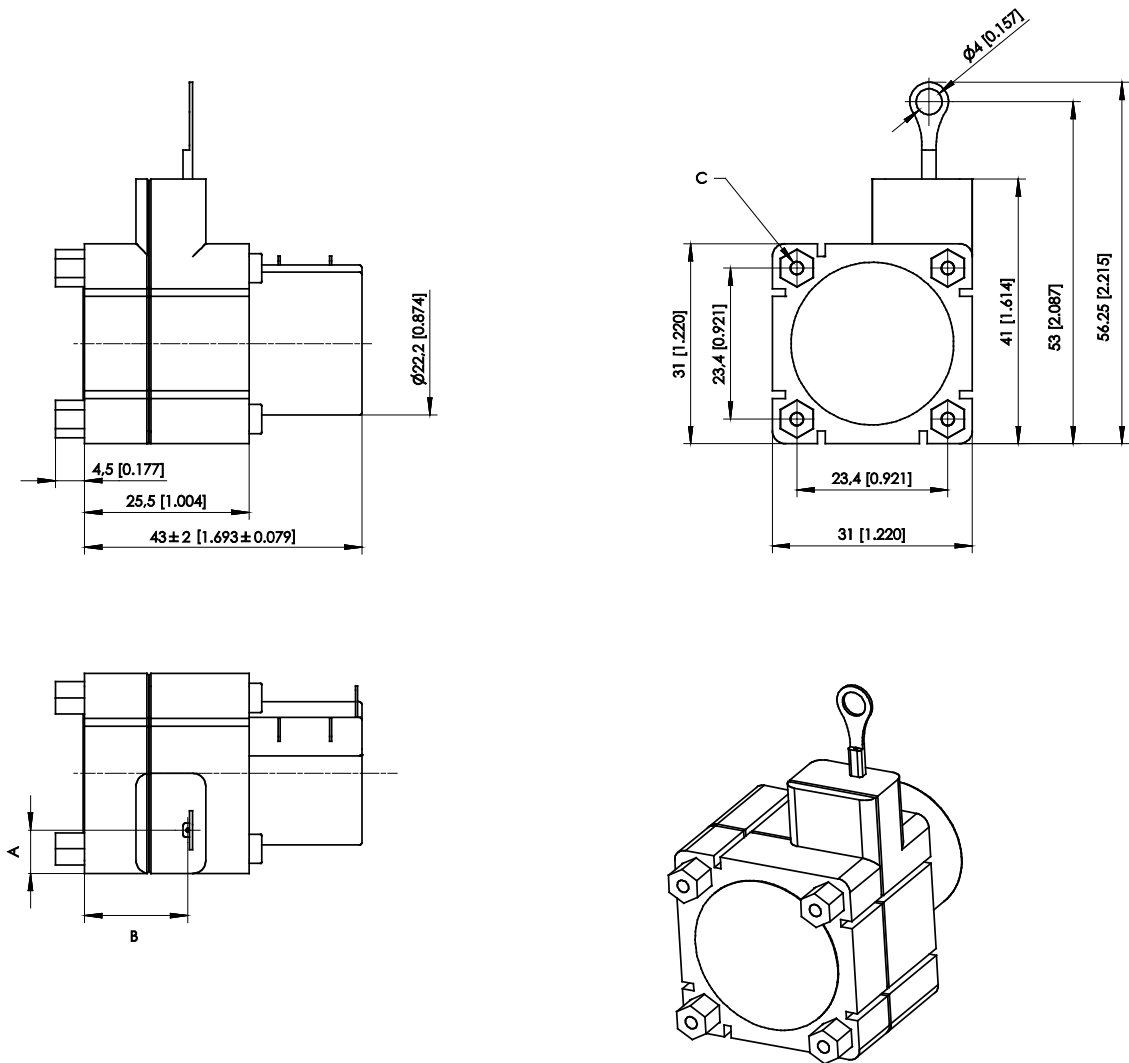
Measurement range 250/500/750 mm, R1K, mounting brackets



Dimensions in mm	Measurement range	A	B
	250; 500	6.7	16
	750	3.2	15.5

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 250/500/750 mm, R1K, spacer nuts

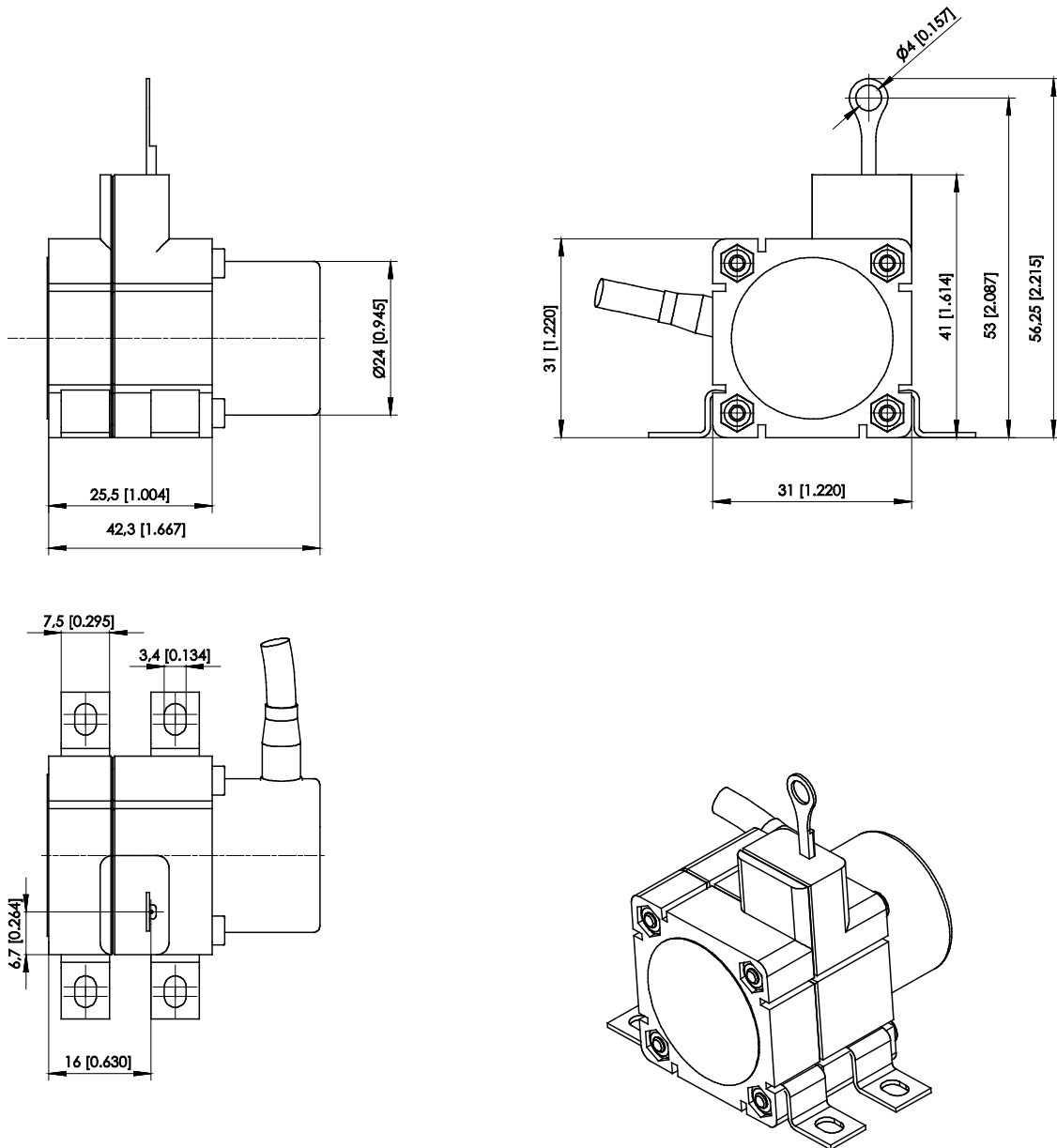


Dimensions in mm	Measurement range	A	B
	250; 500	6.7	16
	750	3.2	15.5

C – M2,5 – 4 [.157] deep

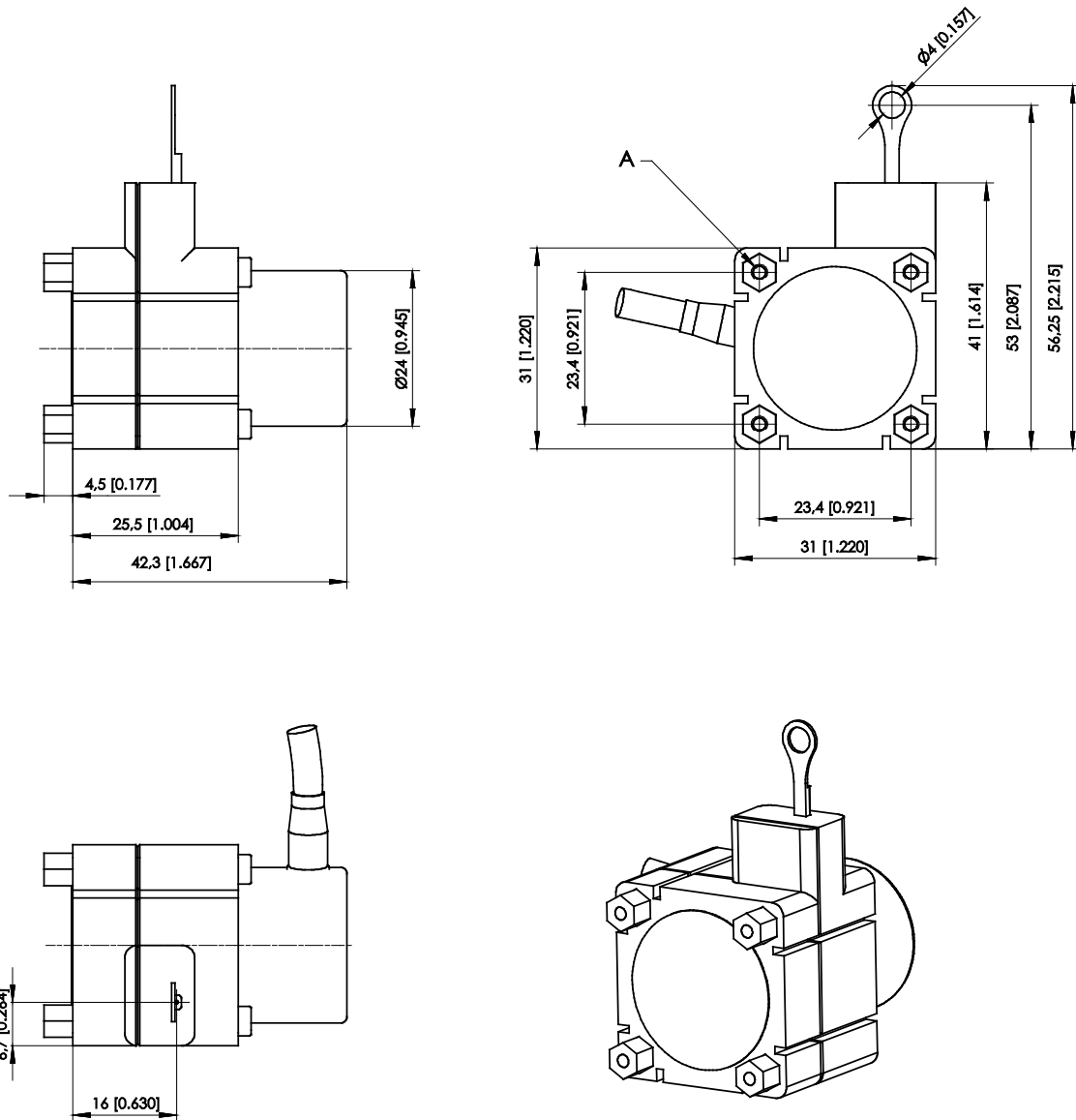
Dimensions in mm [inch].
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 500 mm, IE24, mounting brackets



Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 500 mm, IE24, spacer nuts

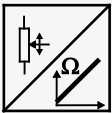


A - M2,5 – 4 [.157] deep
 Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

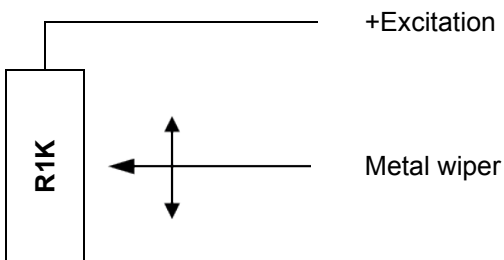
Output specifications

Analog outputs

Voltage divider R1K

Potentiometer 	Excitation voltage	32 V DC max. at 1 kΩ (max. power 1 W)
	Potentiometer impedance	1 kΩ ±10 %
	Thermal coefficient	±25 x 10 ⁻⁶ / °C f.s.
	Sensitivity	Depends on the measuring range, individual sensitivity of the sensor is specified on the label
	Voltage divider utilization range	approx. 3 % ... 97 %
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Note:

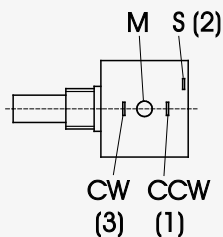
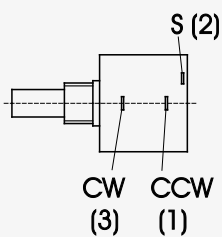
The metal wiper of the potentiometer must be protected against current load!

Electrical current flow impact on the wiper causes linearity errors and shortens the lifetime of the potentiometer.

See:


http://www.asm-sensor.com/asm/pdf/pro/ws_poti_technote_en.pdf

Signal wiring potentiometer WS31 / WS42

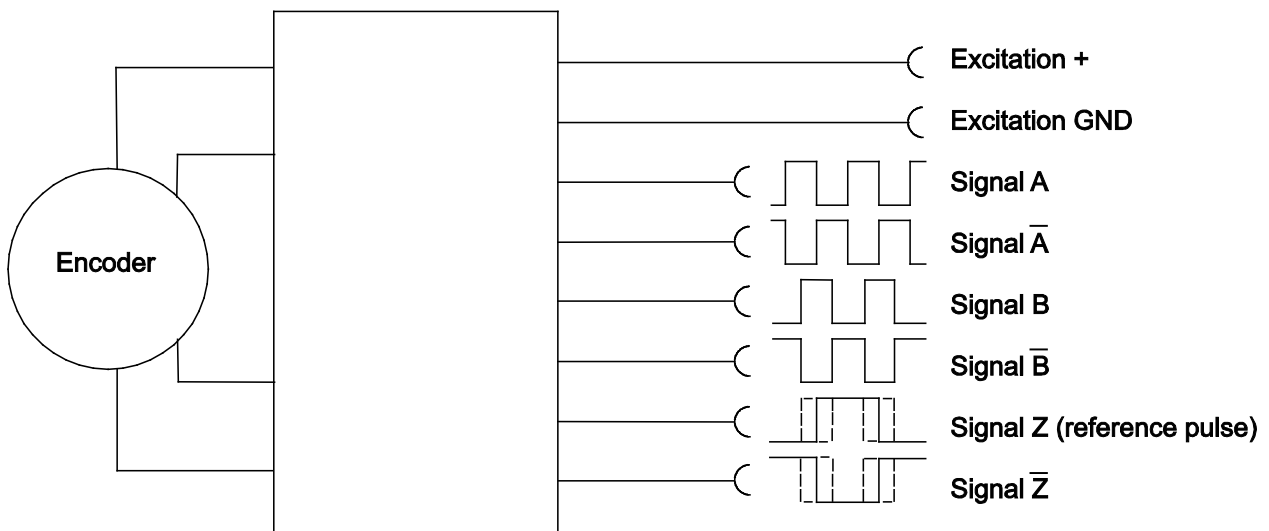
Signal	CT-Poti / 5-Turn WS31: 250 mm	Multi-Turn-Poti / 10-Turn WS31, WS42: 500 / 750 / 1000 mm
		
Poti +	M	CCW
Poti GND	CW	CW
Poti slider	S	S

Incremental outputs

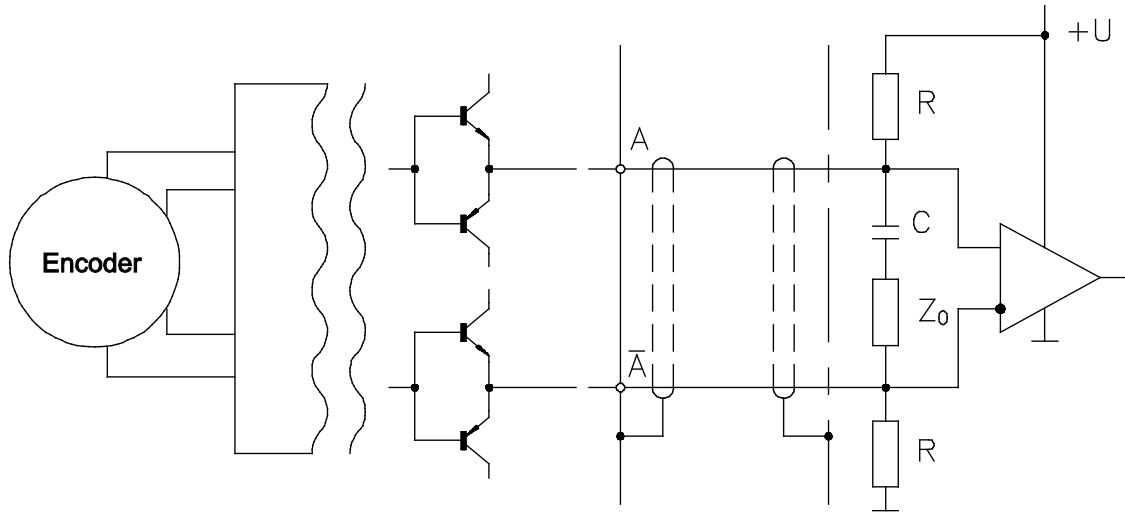
Signal conditioner IE24LI and IE24HI

Incremental	IE24LI	IE24HI	
	Excitation voltage	5 V DC ±10 %	10 ... 30 V DC
	Excitation current	100 mA max.	
	Output frequency	200 kHz max.	
	Output	Push-Pull and inverted signals	
	Output current	10 mA max.	
	Output voltage	Depending on the excitation voltage	
	Stability (temperature)	±20 x 10 ⁻⁶ / °C f.s. (sensor mechanism)	
	Operating temperature	Refer to output specification of the sensor	
	Protection	Short circuit	
	EMC	EN 61326-1:2013	

Output signals



Recommended processing circuit



Signal wiring

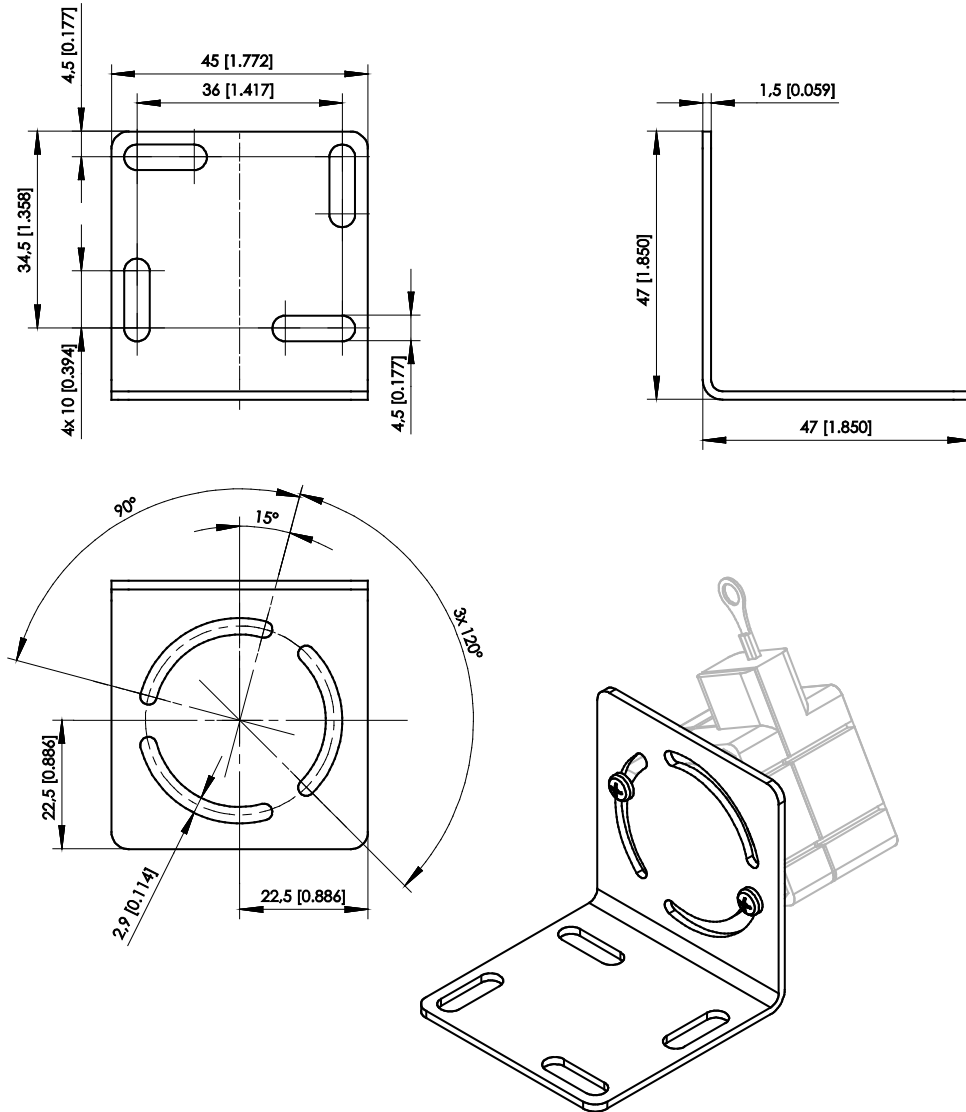
Signal	Cable color
Excitation +	brown
Excitation GND	white
Signal A	green
Signal \bar{A}	yellow
Signal B (A + 90°)	grey
Signal \bar{B}	pink
Signal Z (reference pulse)	blue
Signal \bar{Z}	red

Accessories

Mounting bracket WS31 / WS31C

(only for sensors with spacer nuts)

Order code **WS31-BFW1**





perfect in sensors.

POSIWIRE®

Cable Extension Position Sensors

WS42

Compact OEM sensor for large order volumes

Datasheet



Copyright

© ASM GmbH
Am Bleichbach 18-24
85452 Moosinning
Germany

The information presented in this data sheet does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by ASM for any consequence of its use. Publication thereof does not convey nor imply any license under patent or industrial or intellectual property rights. Applications that are described herein for any of these products are for illustrative purpose only.

ASM makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Analog output4
 Specifications 4
 Order code 5

Incremental encoder output6
 Specifications 6
 Order code 7

Dimensions8
 Measurement range 750/1000 mm, R1K, mounting brackets 8
 Measurement range 750/1000 mm, R1K, spacer nuts 9
 Measurement range 1000 mm, IE24, mounting brackets 10
 Measurement range 1000 mm, IE24, spacer nuts..... 11

Output specifications12

Analog outputs12
 Voltage divider R1K 12
 Signal conditioner IE24LI and IE24HI 13

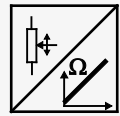
Accessories.....15
 Mounting bracket WS42 / WS42C 15

Analog output



Compact OEM sensor for large order volumes

- Measurement range up to 1000 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Analog output



Specifications

Output	R1K = Potentiometer 1 KΩ
Resolution	Analog: quasi infinite
Linearity	±0.35% f.s., other values on request
Sensing device	Precision potentiometer
Housing material	Plastic, aluminium measuring cable: stainless steel
Protection class	IP50
Connection	Potentiometer (soldering eye)
Temperature range	-15 ... +60 °C, max. 85 % RH, non condensing
Weight	Approx. 130 g
Pull-out force	750 mm: 2.5 N 1000 mm: 1.7 N
EMC	EN 61326-1:2013

Order code

WS42 – 1 – 2 – 3 – 4

1 Measurement range (in mm)

750 / 1000

2 Output

R1K = Potentiometer 1 KΩ

3 Linearity

L35 = ±0.35%

4 Sensor mounting

1 = Mounting brackets
2 = Spacer nuts

Order example

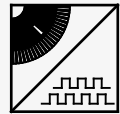
WS42 – 1000 – R1K – L35 – 1

Incremental encoder output



Compact OEM sensor for large order volumes

- Measurement range up to 1000 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Incremental encoder output



Specifications

Output	IE24LI = Incremental encoder TTL compatible IE24HI = Incremental encoder HTL compatible
Resolution	6 pulses / mm (24 edges / mm)
Linearity	±0.20% f.s.
Sensing device	Incremental encoder
Housing material	Plastic, aluminium measuring cable: stainless steel
Protection class	IP50
Connection	Cable output radial, length approx. 3 m
Temperature range	0 ... +60 °C, max. 85 % RH, non condensing
Weight	Approx. 130 g
Pull-out force	1.7 N
EMC	EN 61326-1:2013



Order code

WS42 – 1 – 2 – 3 – 4

1 Measurement range (in mm)

1000

2 Resolution

6 = 6 pulses / mm

3 Output

IE24LI = Incremental encoder TTL compatible

IE24HI = Incremental encoder HTL compatible

4 Mounting

1 = Mounting brackets

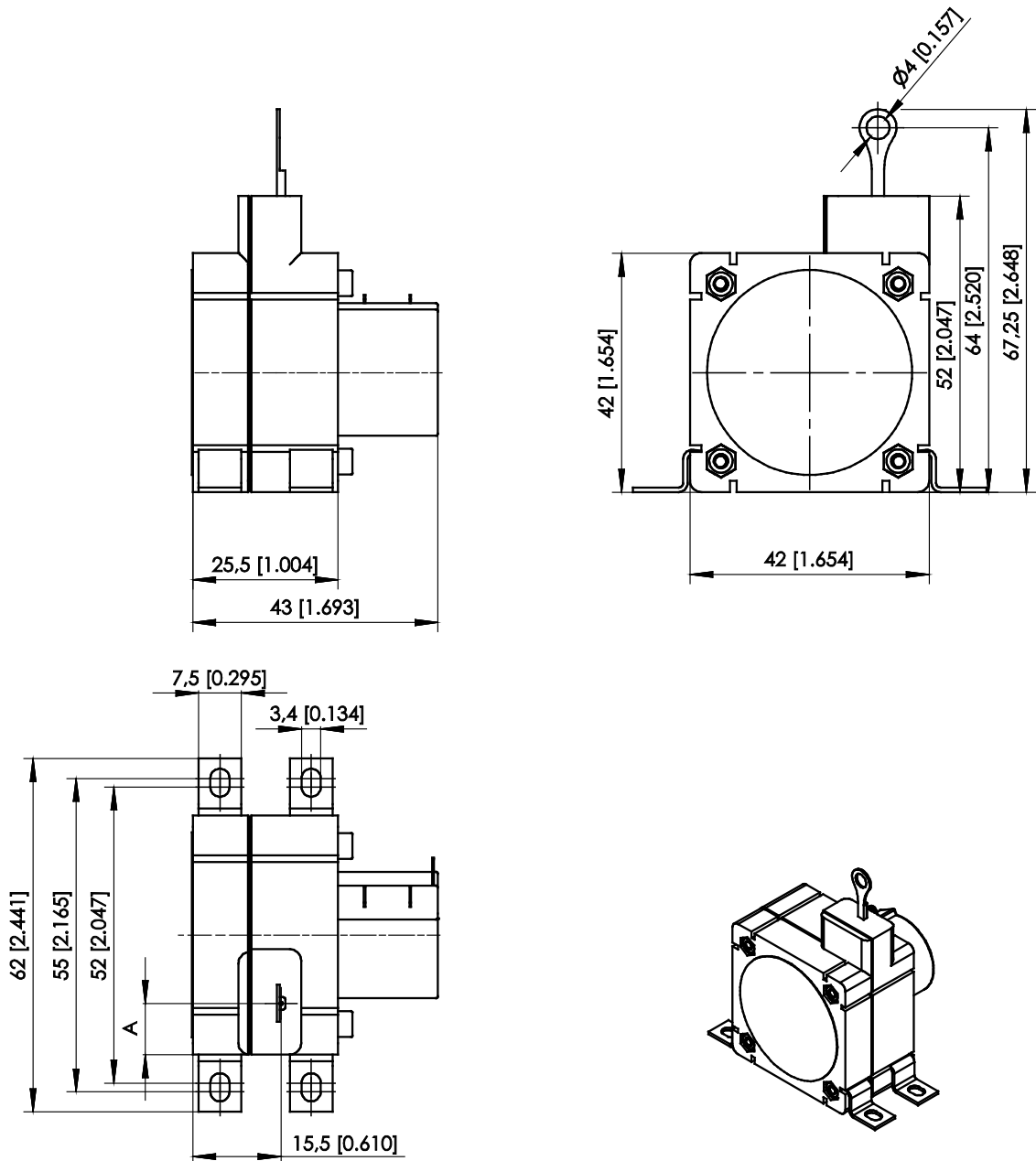
2 = Spacer nuts

Order example

WS42 – 1000 – 6 – IE24HI – 1

Dimensions

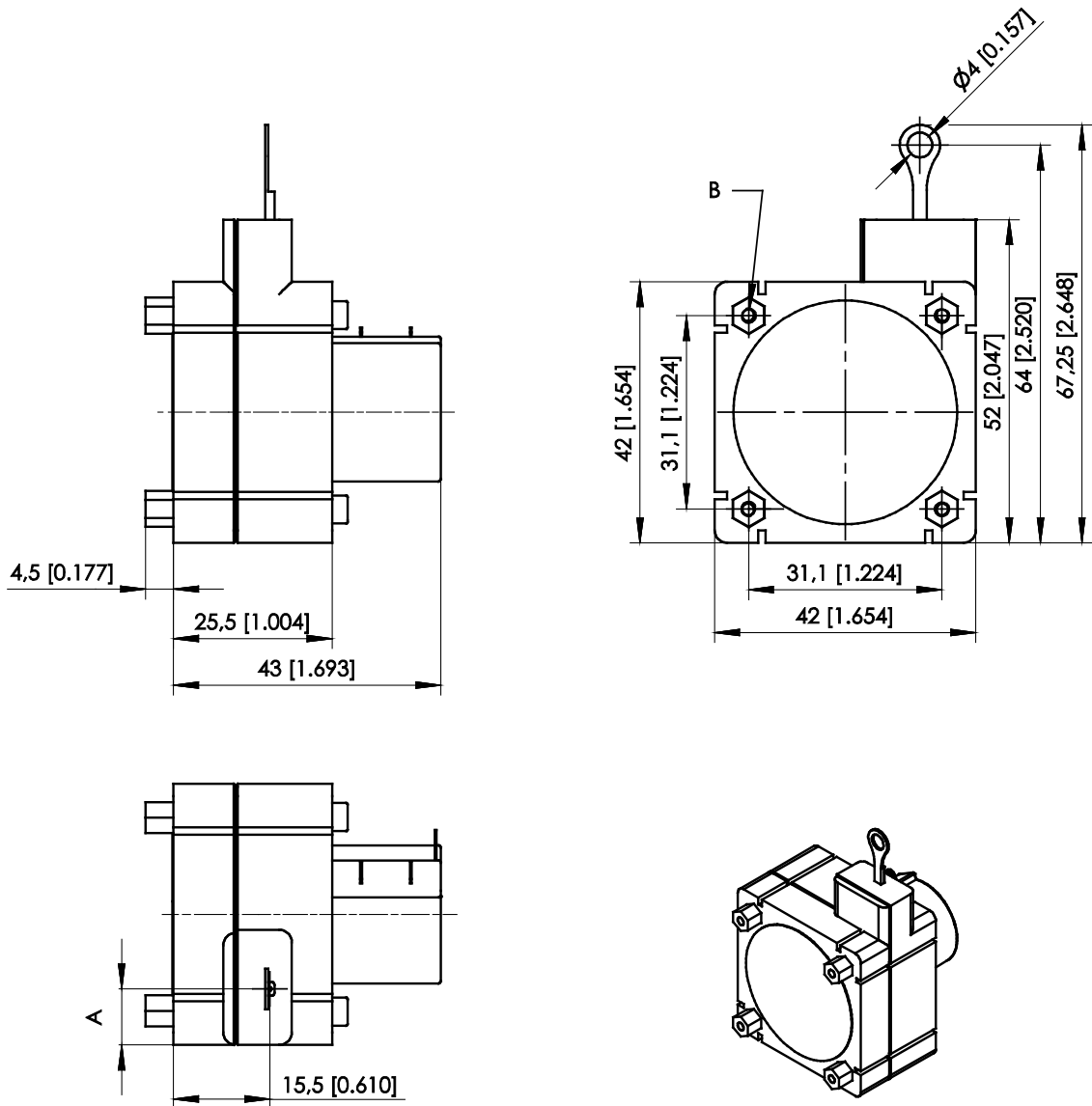
Measurement range 750/1000 mm, R1K, mounting brackets



Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Dimensions in mm	Measurement range	A
	750	9
	1000	3.3

Measurement range 750/1000 mm, R1K, spacer nuts

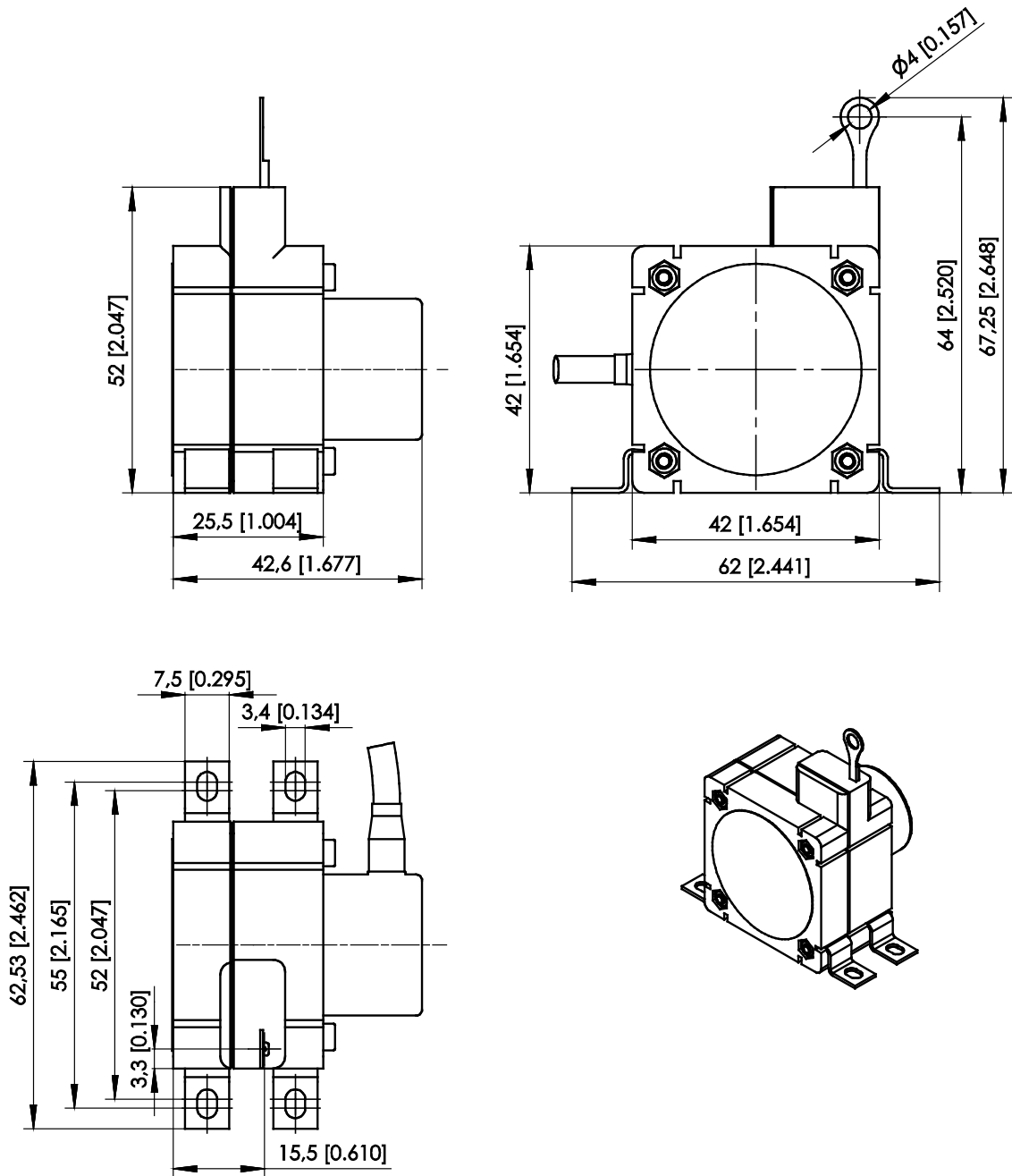


Dimensions in mm	Measurement range	A
	750	9
	1000	3.3

B – M2,5 – 4.5 [.177] deep

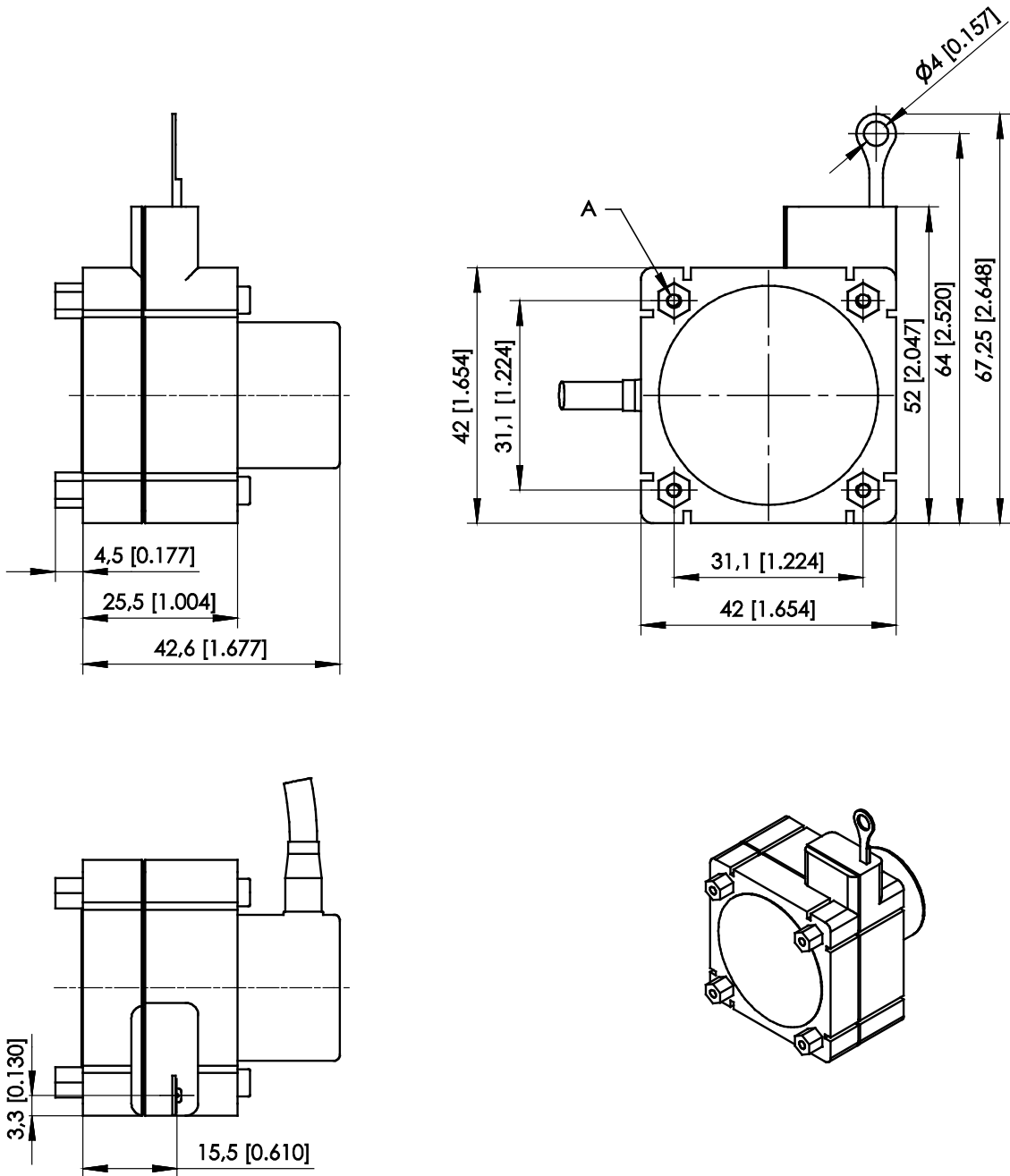
Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 1000 mm, IE24, mounting brackets



Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 1000 mm, IE24, spacer nuts



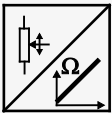
A – M2,5 – 4 [.157] deep

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

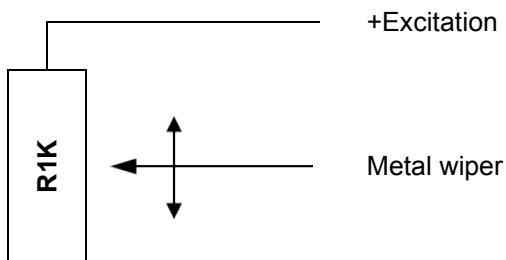
Output specifications

Analog outputs

Voltage divider R1K

Potentiometer 	Excitation voltage	32 V DC max. at 1 kΩ (max. power 1 W)
	Potentiometer impedance	1 kΩ ±10 %
	Thermal coefficient	±25 x 10 ⁻⁶ / °C f.s.
	Sensitivity	Depends on the measuring range, individual sensitivity of the sensor is specified on the label
	Voltage divider utilization range	approx. 3 % ... 97 %
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Note:

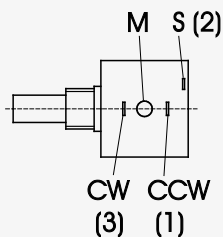
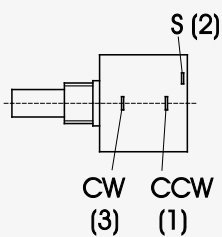
The metal wiper of the potentiometer must be protected against current load!

Electrical current flow impact on the wiper causes linearity errors and shortens the lifetime of the potentiometer.


See:

http://www.asm-sensor.com/asm/pdf/pro/ws_poti_technote_en.pdf

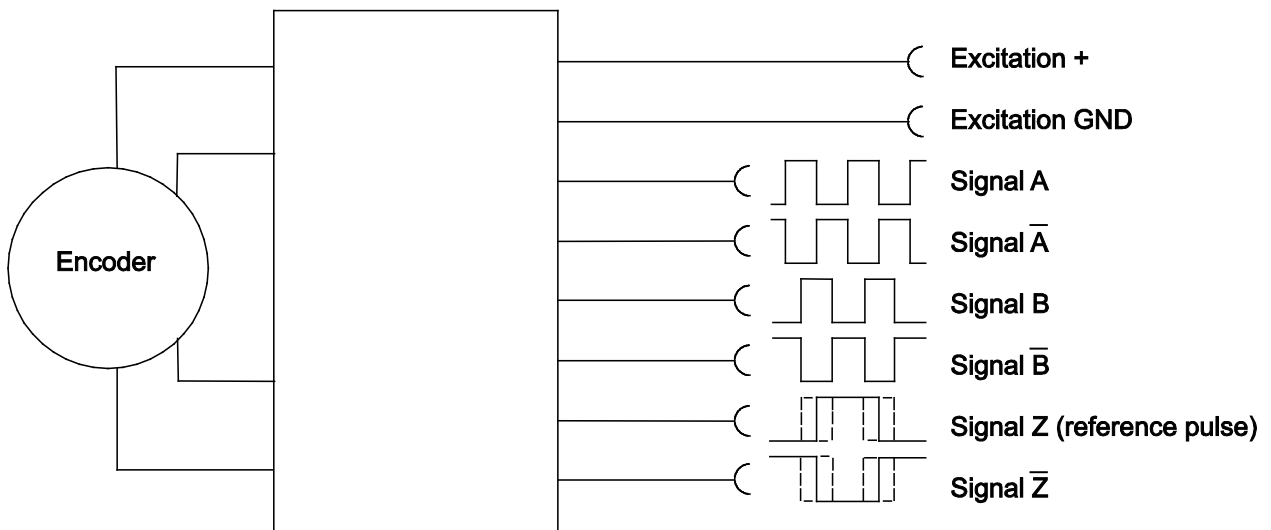
Signal wiring potentiometer WS31 / WS42

Signal	CT-Poti / 5-Turn WS31: 250 mm	Multi-Turn-Poti / 10-Turn WS31, WS42: 500 / 750 / 1000 mm
		
Poti +	M	CCW
Poti GND	CW	CW
Poti slider	S	S

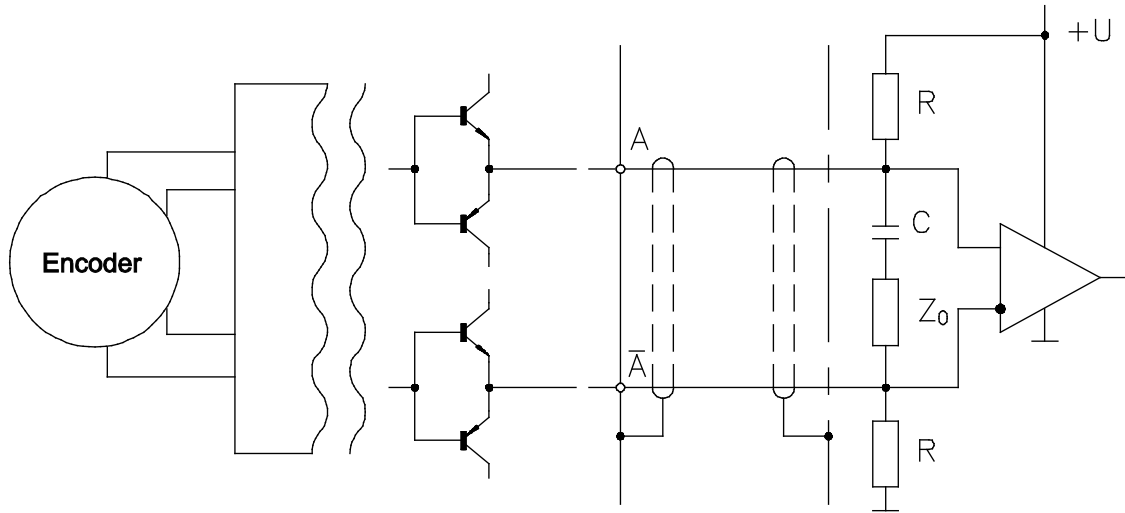
Signal conditioner IE24LI and IE24HI

	IE24LI	IE24HI	
Incremental			
	Excitation voltage	5 V DC ±10 %	10 ... 30 V DC
	Excitation current	100 mA max.	
	Output frequency	200 kHz max.	
	Output	Push-Pull and inverted signals	
	Output current	10 mA max.	
	Output voltage	Depending on the excitation voltage	
	Stability (temperature)	±20 x 10 ⁻⁶ / °C f.s. (sensor mechanism)	
	Operating temperature	Refer to output specification of the sensor	
	Protection	Short circuit	
	EMC	EN 61326-1:2013	

Output signals



Recommended processing circuit



Signal wiring

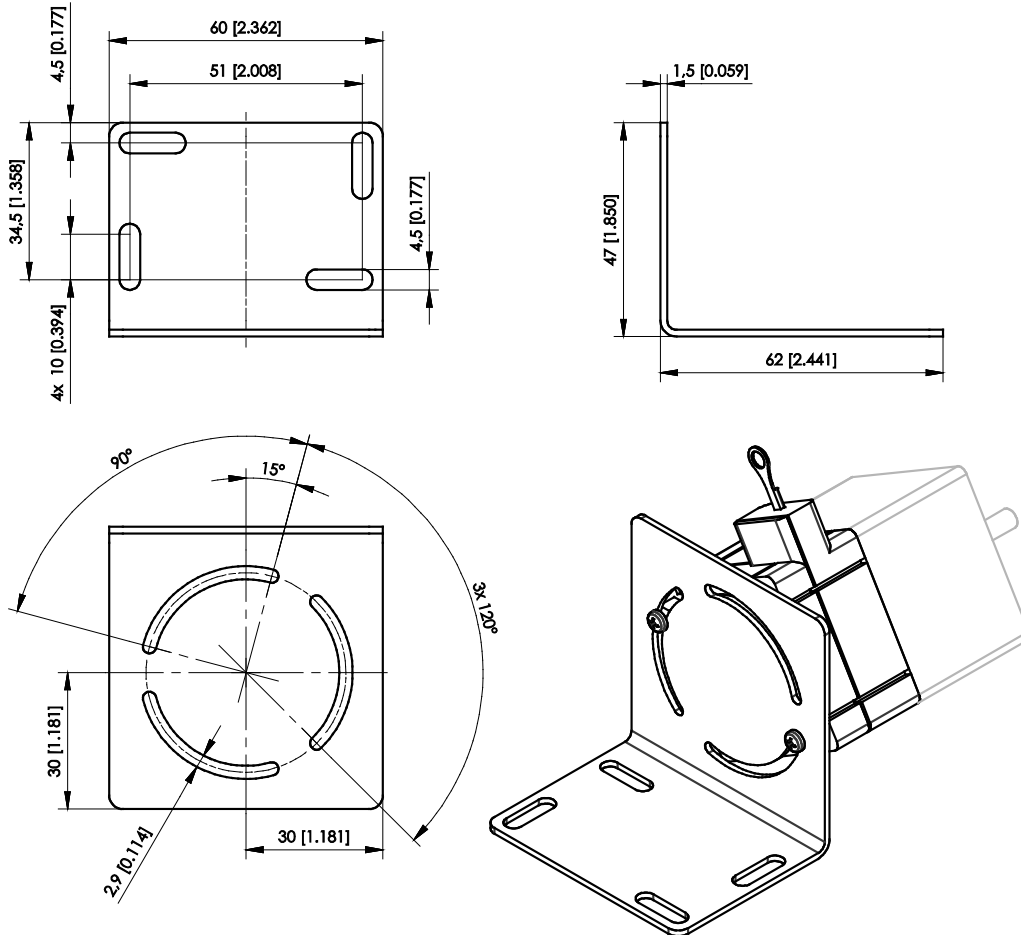
Signal	Cable color
Excitation +	brown
Excitation GND	white
Signal A	green
Signal \bar{A}	yellow
Signal B (A + 90°)	grey
Signal \bar{B}	pink
Signal Z (reference pulse)	blue
Signal \bar{Z}	red

Accessories

Mounting bracket WS42 / WS42C

(only for sensors with spacer nuts)

Order code **WS42-BFW1**





perfect in sensors.

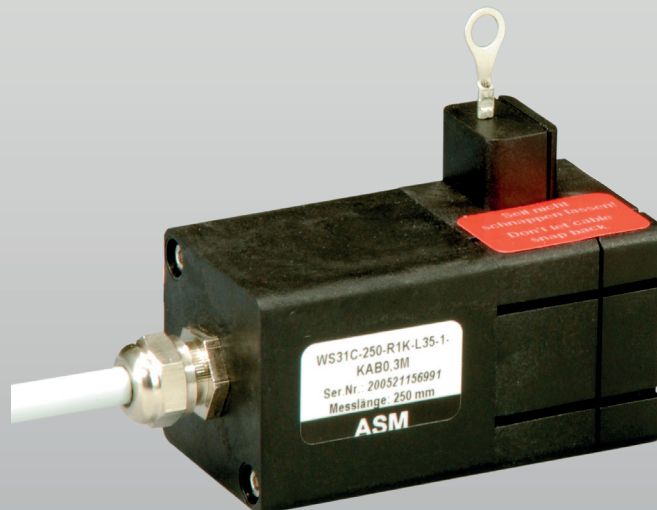
POSIWIRE®

Cable Extension Position Sensors

WS31C

Compact OEM sensor for large order volumes

[Datasheet](#)



Copyright

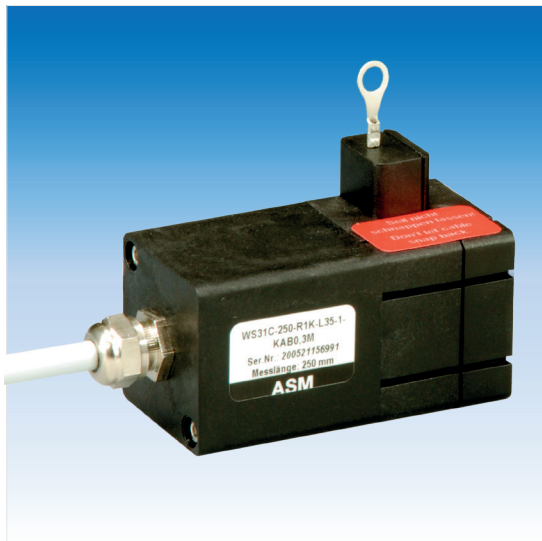
© ASM GmbH
Am Bleichbach 18-24
85452 Moosinning
Germany

The information presented in this data sheet does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by ASM for any consequence of its use. Publication thereof does not convey nor imply any license under patent or industrial or intellectual property rights. Applications that are described herein for any of these products are for illustrative purpose only.

ASM makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

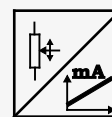
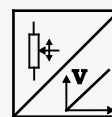
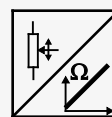
Analog output	4
Specifications	4
Order code	5
Dimensions	6
Measurement range 250/500/750 mm, R1K, 10V5, 420A, mounting brackets	6
Measurement range 250/500/750 mm, R1K, 10V5, 420A, spacer nuts	7
Output specifications	8
Analog outputs	8
Voltage divider R1K	8
Signal conditioner 10V and 10V5.....	9
Signal conditioner 420A	10
Accessories	11
Connector cable M8, 4 pin	11
Connector cable M8, 4 pin	11
Mounting bracket WS31 / WS31C	12

Analog output



Compact OEM sensor for large order volumes

- Measurement range up to 750 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Analog output



Specifications

Output	R1K 10V 420A	= Potentiometer 1 kΩ = Voltage 0 ... 10 V = Current 4 ... 20 mA, 2 wire
Resolution	Analog: quasi infinite	
Linearity	±0.35% f.s., other values on request	
Sensing device	Precision potentiometer	
Housing material	Plastic, aluminium measuring cable: stainless steel	
Protection class	IP50	
Connection	Cable output, standard length 2 m Connector M8, 4-pin (only for output R1K)	
Temperature range	-15 ... +60 °C, max. 85 % RH, non condensing	
Weight	Approx. 90 g	
Pull-out force	250 mm: 500 mm: 750 mm:	1.5 N 1.7 N 1.2 N
EMC	EN 61326-1:2013	

Order code

WS31C – 1 – 2 – 3 – 4 – 5

1 Measurement range (in mm)

250 / 500 / 750

2 Output

R1K = Potentiometer 1 kΩ
10V = Voltage 0 ... 10 V
420A = Current 4 ... 20 mA, 2 wire

3 Linearity

L35 = ±0.35%

4 Sensor mounting

1 = Mounting brackets
2 = Spacer nuts

5 Connection

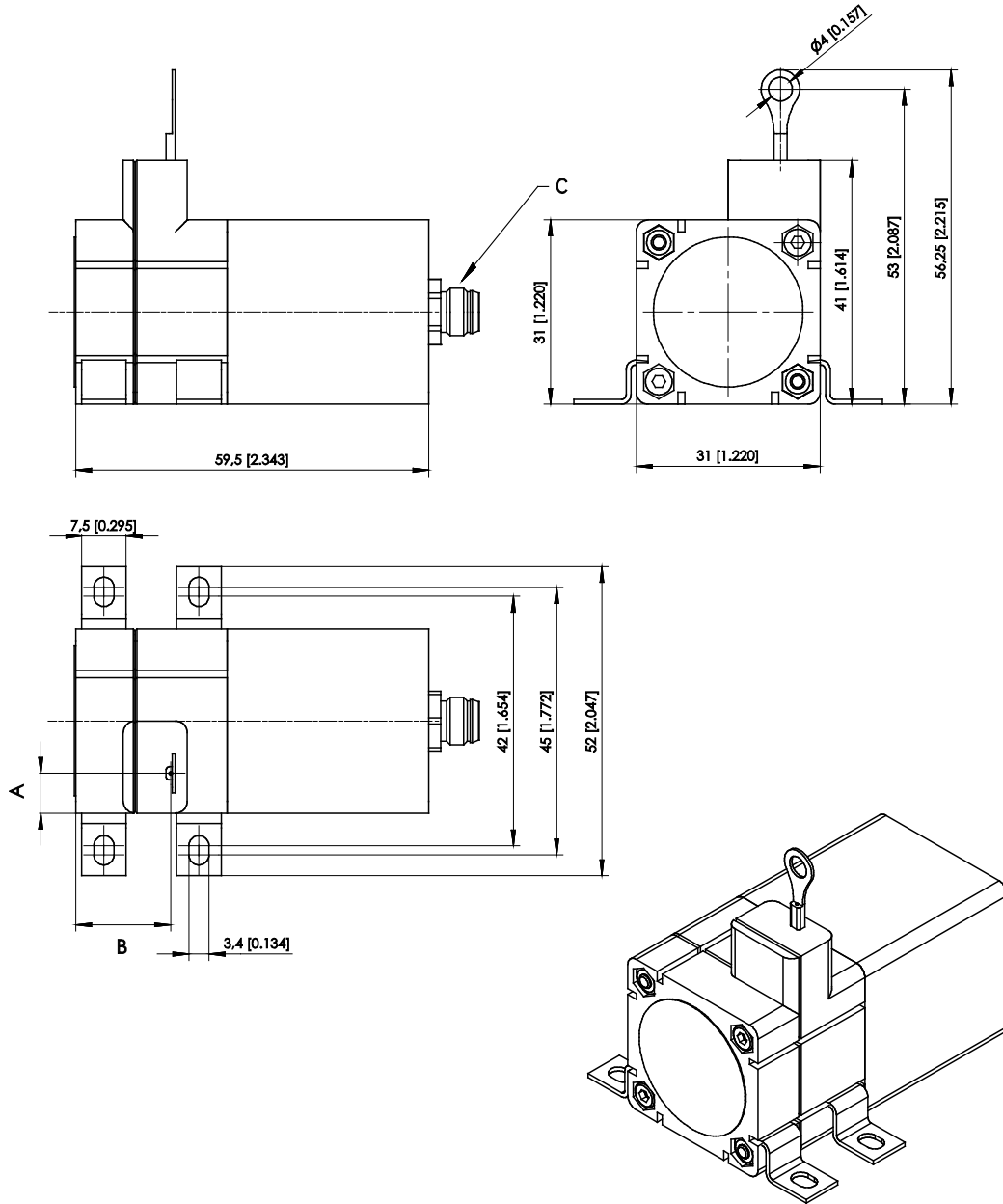
KAB2M = Cable output, standard length 2 m
M8 = Connector M8, 4 pin (only for output R1K)

Order example

WS31C – 250 – 420A – L35 – 1 – KAB2M

Dimensions

Measurement range 250/500/750 mm, R1K, 10V5, 420A, mounting brackets

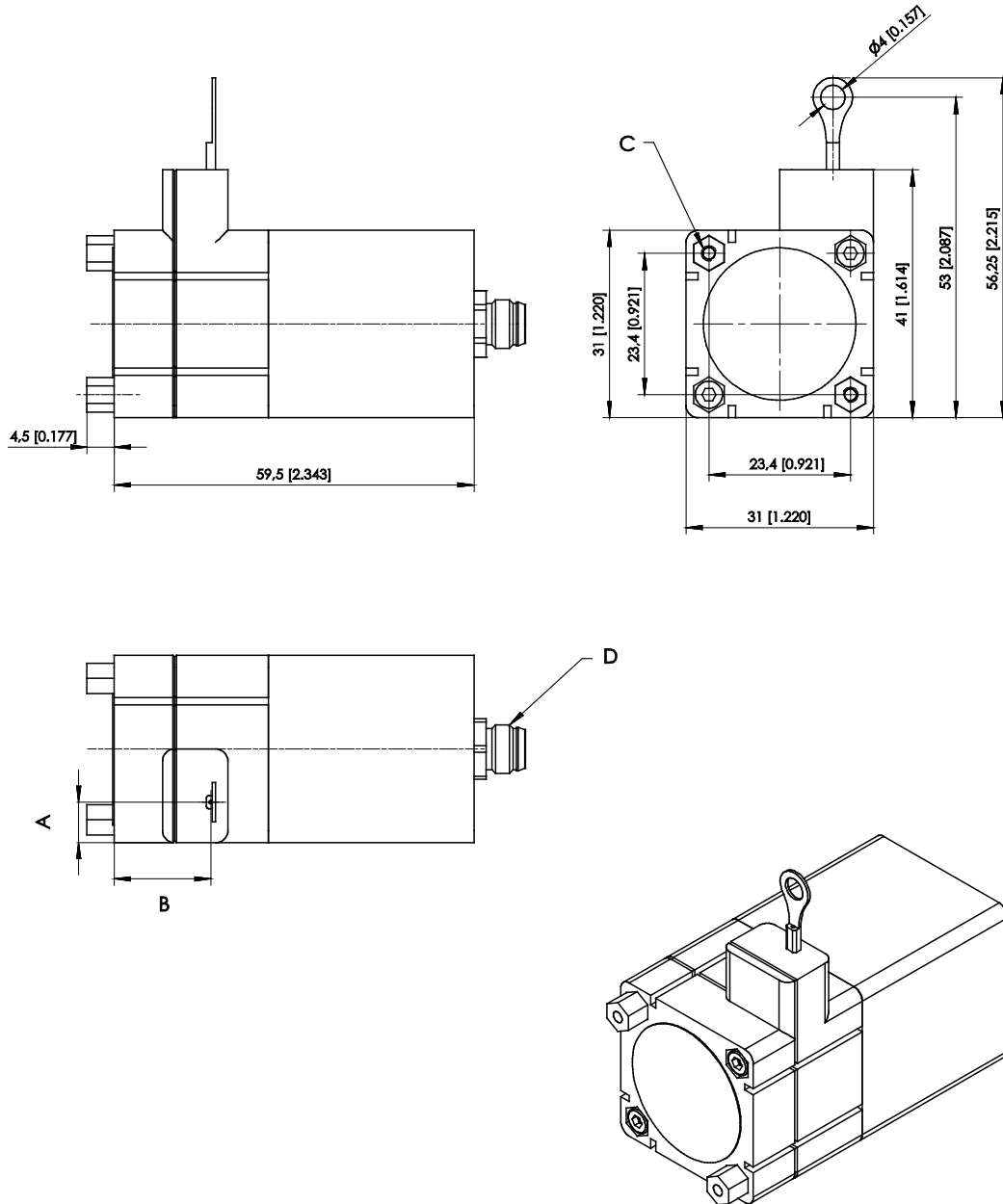


Dimensions in mm	Measurement range	A	B
	250; 500	6.7	16
	750	3.2	15.5

C – Connector M8

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 250/500/750 mm, R1K, 10V5, 420A, spacer nuts



Dimensions in mm	Measurement range	A	B
	250; 500	6.7	16
	750	3.2	15.5

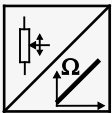
C – M2,5 – 4 [0.157] deep
 D – Connector M8

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

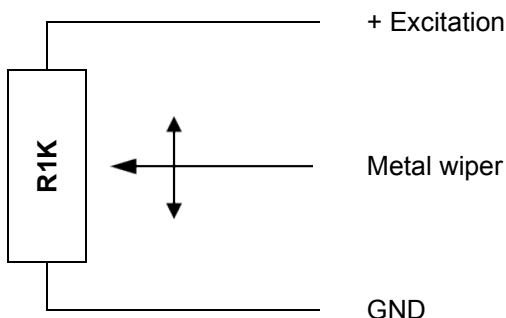
Output specifications

Analog outputs

Voltage divider R1K

Potentiometer 	Excitation voltage	32 V DC max. at 1 kΩ (max. power 1 W)
	Potentiometer impedance	1 kΩ ±10 %
	Thermal coefficient	±25 x 10 ⁻⁶ / °C f.s.
	Sensitivity	Depends on the measuring range, individual sensitivity of the sensor is specified on the label
	Voltage divider utilization range	approx. 3 % ... 97 %
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Note:

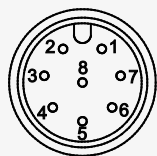
The metal wiper of the potentiometer must be protected against current load!

Electrical current flow impact on the wiper causes linearity errors and shortens the lifetime of the potentiometer.

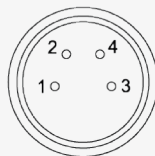
Signal wiring

Signal	Connector pin no.	Cable color [WH, BN, GN, YE]	Cable color [BN, WH, BU, BK, GY]
Poti +	1	white	brown
Poti GND	2	brown	white
Poti slider	3	green	blue
-	4	yellow	black
-	5	-	grey
-	6, 7, 8	-	-

View to sensor connector

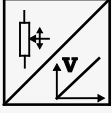


CONN-M12-8F

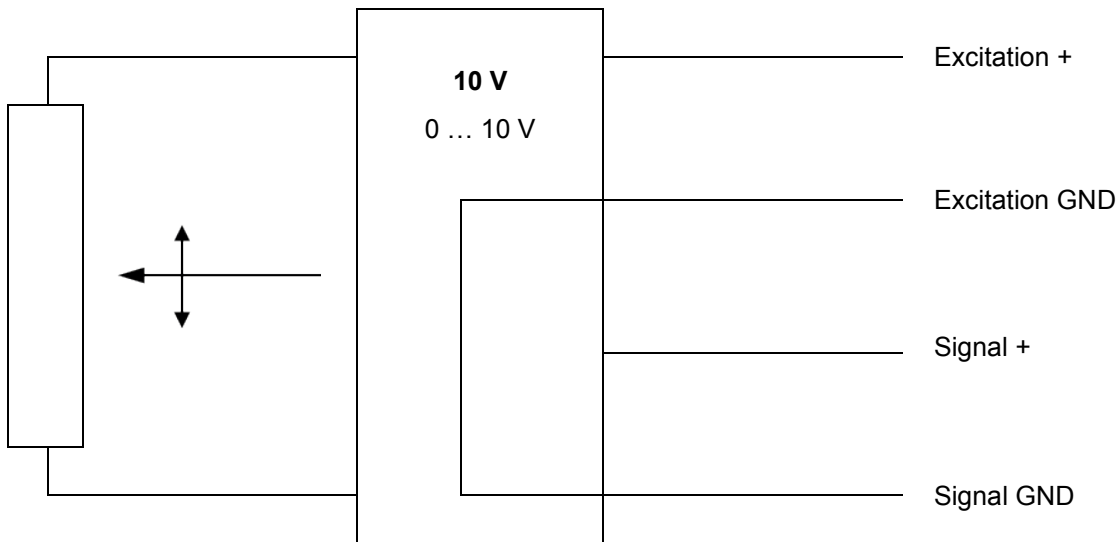


CONN-M8-4F
(nur WS31C, WS42C)

Signal conditioner 10V and 10V5

Voltage output 	Excitation voltage	18 ... 27 V DC non stabilized
	Excitation current	20 mA max.
	Output voltage	10V: 0 ... 10 V DC; 10V5: 0.5 ... 10 V DC
	Output current	2 mA max.
	Output load	> 5 kΩ
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0.5 mVRMS
	Operating temperature	Refer to output specification
	EMV	EN 61326-1:2013

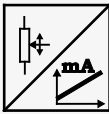
Output signals



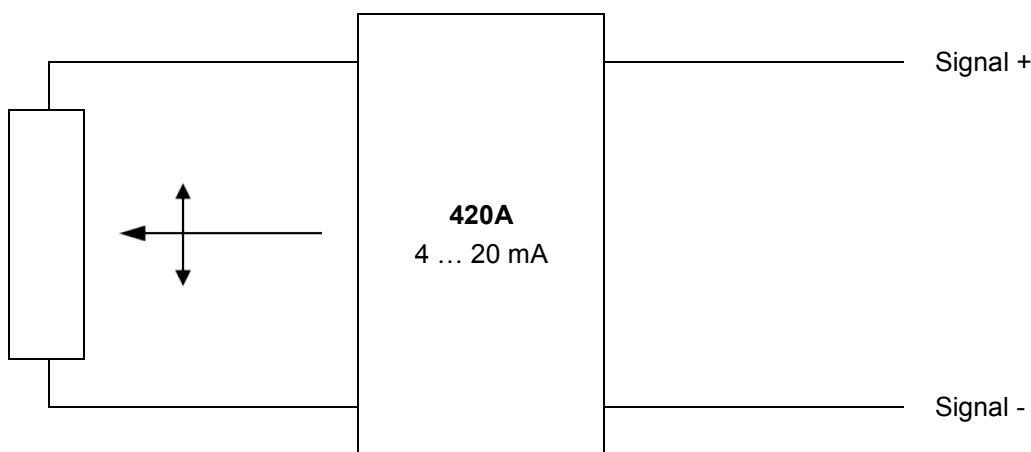
Signal wiring

Signal	Connector pin no.	Cable color	View to sensor connector
Excitation +	1	white	
Excitation GND	2	brown	
Signal +	3	green	
Signal GND	4	yellow	
Not connected	5	-	
Not connected	6	-	
Not connected	7	-	
Not connected	8	-	

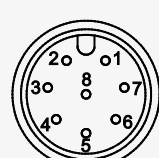
Signal conditioner 420A

Current output (2 wire) 	Excitation voltage	12 ... 27 V DC non stabilized, measured at the sensor terminals
	Excitation current	35 mA max.
	Output current	4 ... 20 mA equivalent for 0 ... 100 % range
	Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reversed polarity, short circuit
	Output noise	0.5 mV _{eff}
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Signal wiring

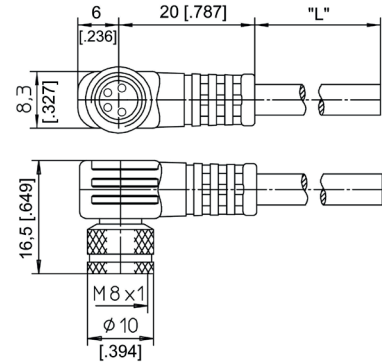
Signal	Connector pin no.	Cable color	View to sensor connector
Signal +	1	white	 CONN-M12-8F
Signal -	2	brown	
Not connected	3	-	
Not connected	4	-	
Not connected	5	-	
Not connected	6	-	
Not connected	7	-	
Not connected	8	-	

Accessories

Connector cable M8, 4 pin (angular coupling)

shielded

The 4-lead shielded cable is supplied with a mating 4-pin 90° M8 connector at one end and 4 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire cross sectional area 0.14 mm²



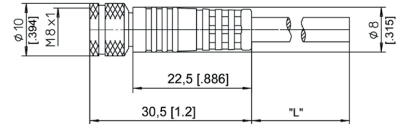
Order code:

	KAB - xM – M8/4F/W - LITZE
IP69:	KAB - xM – M8/4F/W/69K - LITZE
	xM = length in m

Connector cable M8, 4 pin (straight coupling)

shielded

The 4-lead shielded cable is supplied with a mating 4-pin M8 connector at one end and 4 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire cross sectional area 0.14 mm²



Order code:

	KAB - xM – M8/4F/G - LITZE
IP69:	KAB - xM – M8/4F/G/69K - LITZE
	xM = length in m

Signal wiring M8, 4 pin	Plug connection / Cable color			
	1	2	3	4
	brown	white	blue	black

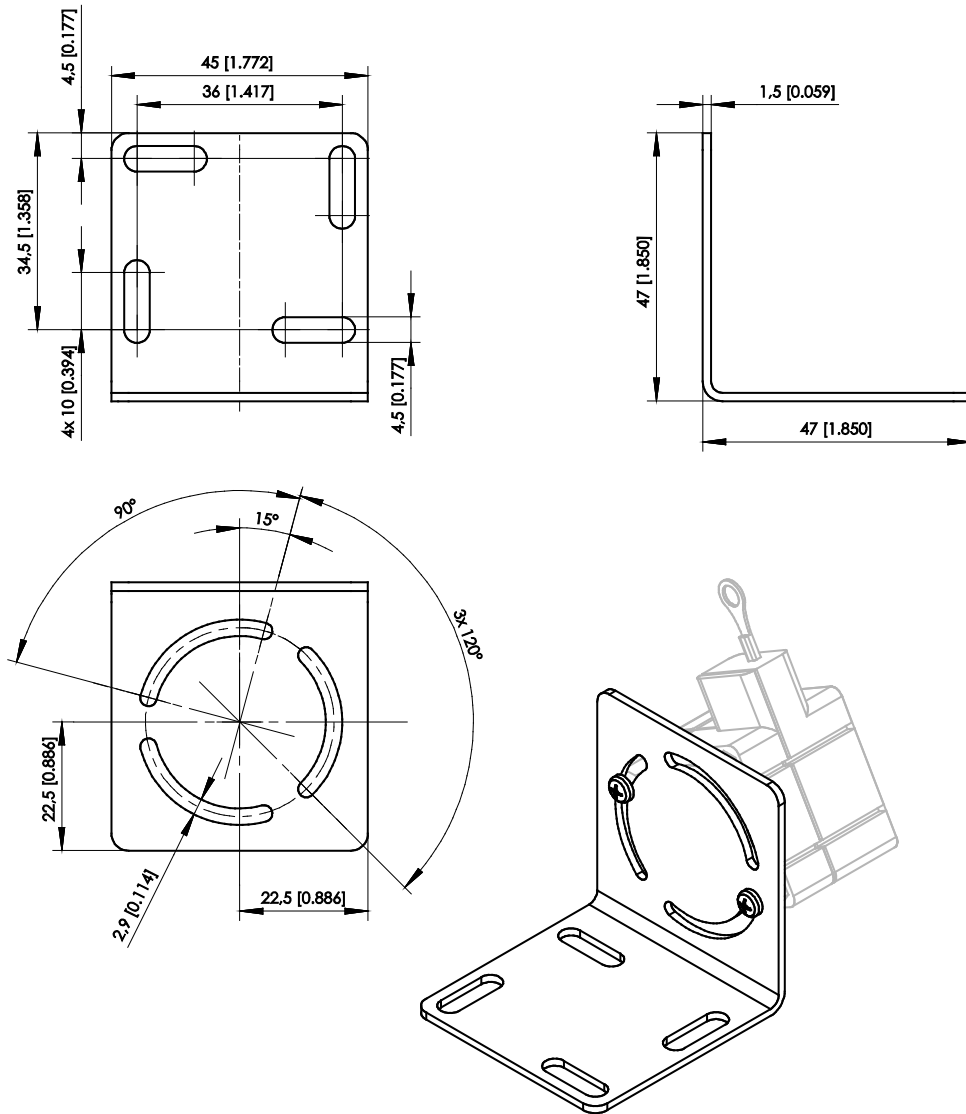
Applicable for cable carriers

Maximum movement speed	3 m/s
Maximum acceleration	5 m/s ²
Minimum bending radius	10 x cable diameter

Mounting bracket WS31 / WS31C

(only for sensors with spacer nuts)

Order code **WS31-BFW1**





perfect in sensors.

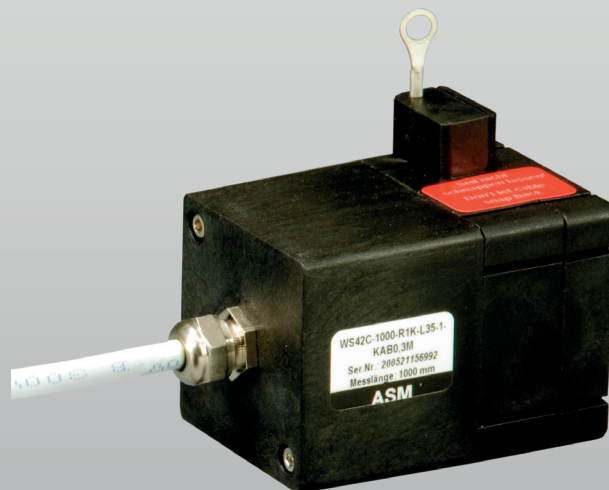
POSIWIRE®

Cable Extension Position Sensors

WS42C

Compact OEM sensor for large order volumes

Datasheet



Copyright

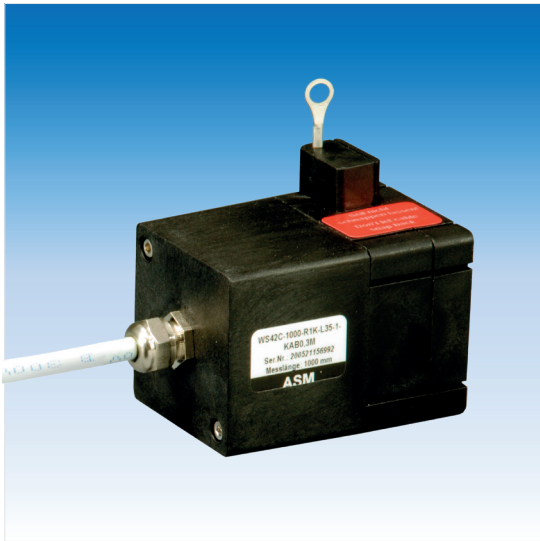
© ASM GmbH
Am Bleichbach 18-24
85452 Moosinning
Germany

The information presented in this data sheet does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by ASM for any consequence of its use. Publication thereof does not convey nor imply any license under patent or industrial or intellectual property rights. Applications that are described herein for any of these products are for illustrative purpose only.

ASM makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

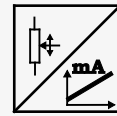
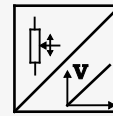
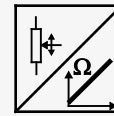
Analog output4
 Specifications 4
 Order code 5
Dimensions6
 Measurement range 750/1000 mm, R1K, 10V5, 420A, mounting brackets 6
 Measurement range 750/1000 mm, R1K, 10V5, 420A, spacer nuts 7
Output specifications8
Analog outputs8
 Voltage divider R1K 8
 Signal conditioner 10V and 10V5..... 9
 Signal conditioner 420A 10
Accessories.....11
 Connector cable M8, 4 pin 11
 Connector cable M8, 4 pin 11
 Mounting bracket WS42 / WS42C 12

Analog output



Compact OEM sensor for large order volumes

- Measurement range up to 1000 mm
- Protection class IP50
- Mounting selectable between mounting brackets or spacer nuts
- Analog output



Specifications

Output	R1K 10V 420A	= Potentiometer 1 kΩ = Voltage 0 ... 10 V = Current 4 ... 20 mA, 2 wire
Resolution	Analog: quasi infinite	
Linearity	±0.35% f.s., other values on request	
Sensing device	Precision potentiometer	
Housing material	Plastic, aluminium measuring cable: stainless steel	
Protection class	IP50	
Connection	Cable output, standard length 2 m Connector M8, 4-pin (only for output R1K)	
Temperature range	-15 ... +60 °C, max. 85 % RH, non condensing	
Weight	Approx. 125 g	
Pull-out force	750 mm: 1000 mm:	2.5 N 1.7 N
EMC	EN 61326-1:2013	

Order code

WS42C – 1 – 2 – 3 – 4 – 5

1 Measurement range (in mm)

750 / 1000

2 Output

R1K = Potentiometer 1 kΩ
10V = Voltage 0 ... 10 V
420A = Current 4 ... 20 mA, 2 wire

3 Linearity

L35 = ±0.35%

4 Sensor mounting

1 = Mounting brackets
2 = Spacer nuts

5 Connection

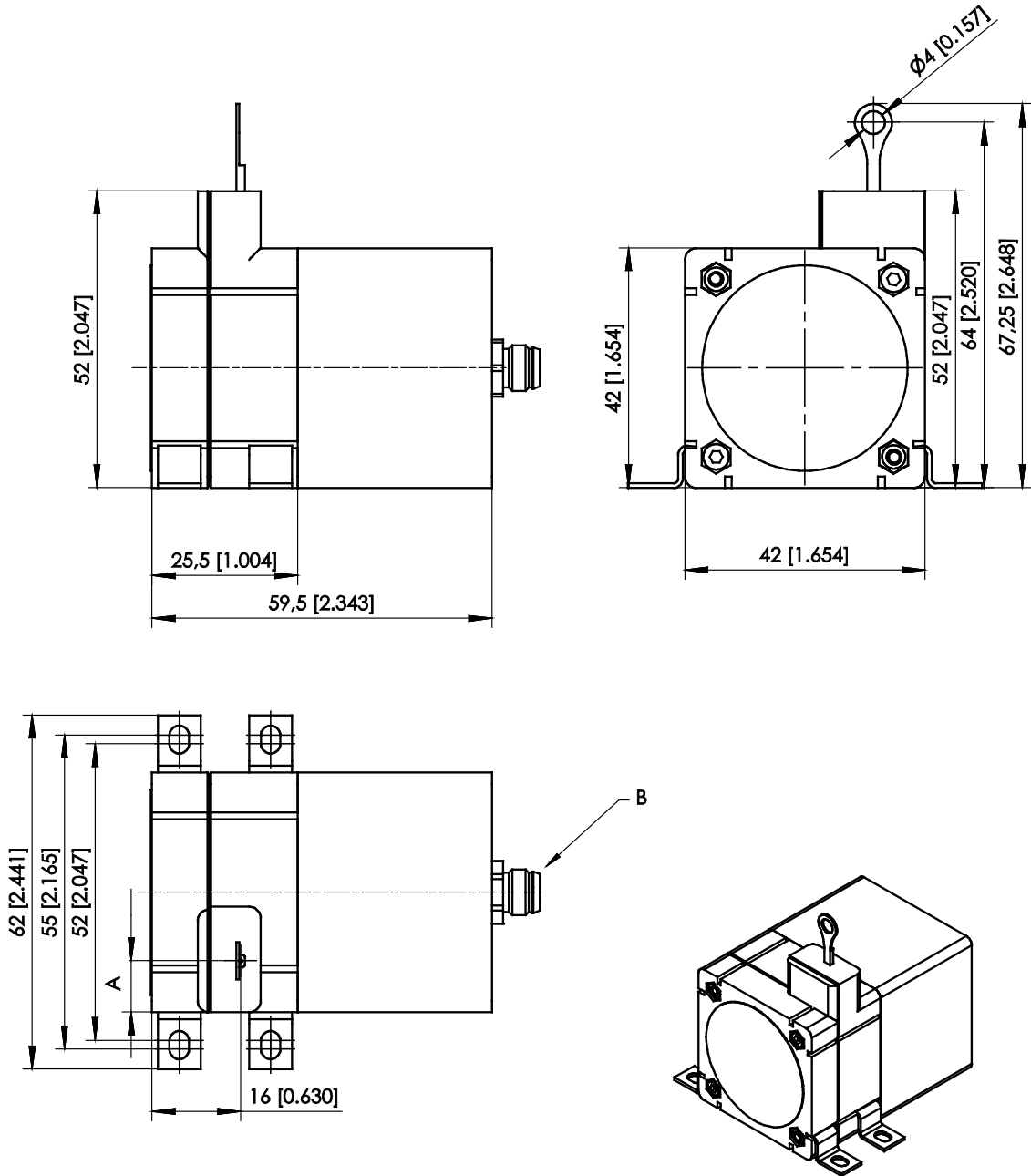
KAB2M = Cable output, standard length 2 m
M8 = Connector M8, 4 pin (only for output R1K)

Order example

WS42C – 750 – 420A – L35 – 1 – KAB2M

Dimensions

Measurement range 750/1000 mm, R1K, 10V5, 420A, mounting brackets

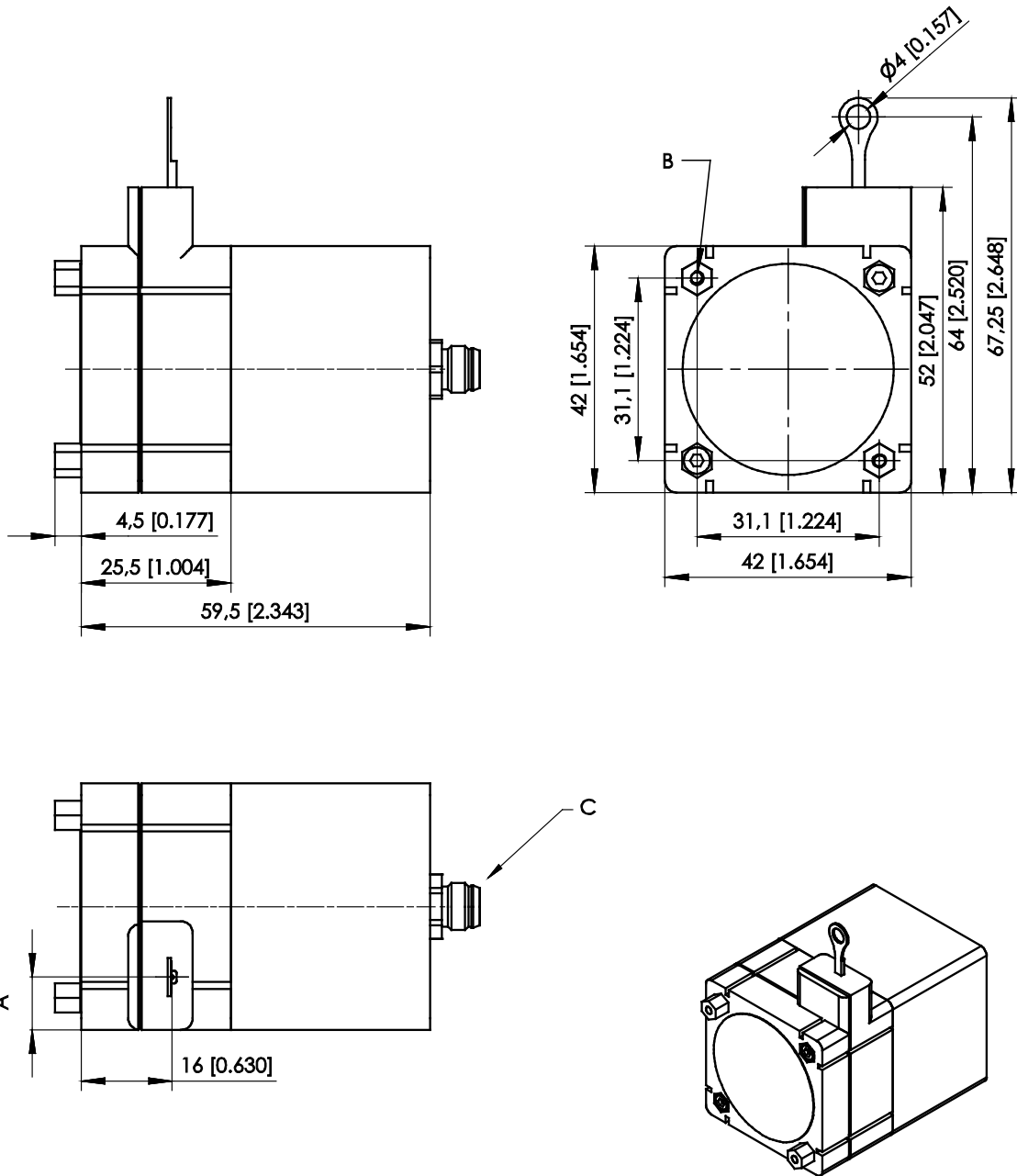


Dimensions in mm	Measurement range	A
	750	9
	1000	3.3

B – Connector M8

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Measurement range 750/1000 mm, R1K, 10V5, 420A, spacer nuts



Dimensions in mm	Measurement range	A
	750	9
	1000	3.3

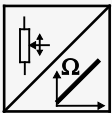
B – 2 x M2,5 – 4,5 [.177] deep
 C – Connector M8

Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

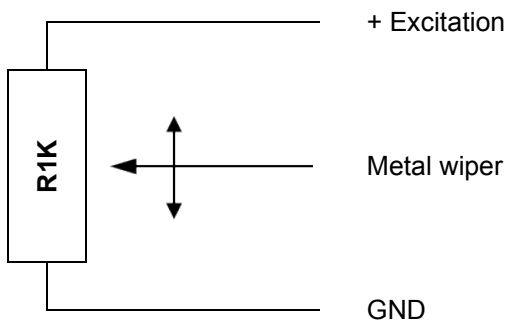
Output specifications

Analog outputs

Voltage divider R1K

Potentiometer 	Excitation voltage	32 V DC max. at 1 kΩ (max. power 1 W)
	Potentiometer impedance	1 kΩ ±10 %
	Thermal coefficient	±25 x 10 ⁻⁶ / °C f.s.
	Sensitivity	Depends on the measuring range, individual sensitivity of the sensor is specified on the label
	Voltage divider utilization range	approx. 3 % ... 97 %
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Note:

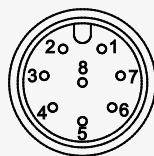
The metal wiper of the potentiometer must be protected against current load!

Electrical current flow impact on the wiper causes linearity errors and shortens the lifetime of the potentiometer.

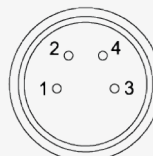
Signal wiring

Signal	Connector pin no.	Cable color [WH, BN, GN, YE]	Cable color [BN, WH, BU, BK, GY]
Poti +	1	white	brown
Poti GND	2	brown	white
Poti slider	3	green	blue
-	4	yellow	black
-	5	-	grey
-	6, 7, 8	-	-

View to sensor connector

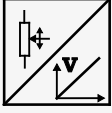


CONN-M12-8F

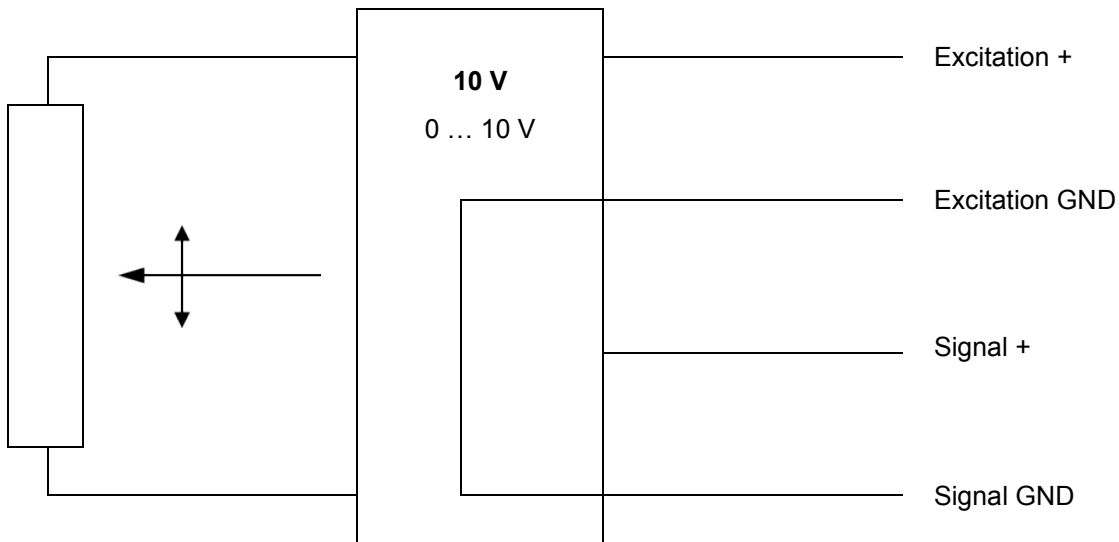


CONN-M8-4F
(nur WS31C, WS42C)

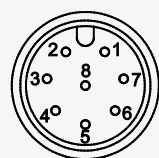
Signal conditioner 10V and 10V5

Voltage output 	Excitation voltage	18 ... 27 V DC non stabilized
	Excitation current	20 mA max.
	Output voltage	10V: 0 ... 10 V DC; 10V5: 0.5 ... 10 V DC
	Output current	2 mA max.
	Output load	> 5 kΩ
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0.5 mVRMS
	Operating temperature	Refer to output specification
	EMV	EN 61326-1:2013

Output signals

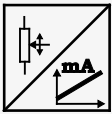


Signal wiring

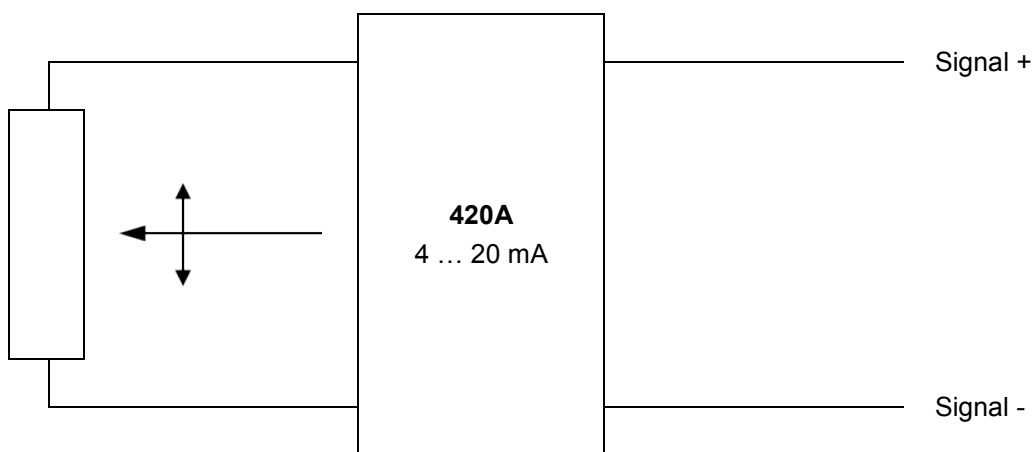
Signal	Connector pin no.	Cable color	View to sensor connector
Excitation +	1	white	
Excitation GND	2	brown	
Signal +	3	green	
Signal GND	4	yellow	
Not connected	5	-	
Not connected	6	-	
Not connected	7	-	
Not connected	8	-	

CONN-M12-8F

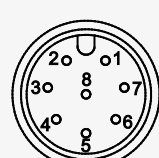
Signal conditioner 420A

Current output (2 wire)	Excitation voltage	12 ... 27 V DC non stabilized, measured at the sensor terminals
	Excitation current	35 mA max.
	Output current	4 ... 20 mA equivalent for 0 ... 100 % range
	Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reversed polarity, short circuit
	Output noise	0.5 mV _{eff}
	Operating temperature	Refer to output specification
	EMC	EN 61326-1:2013

Output signals



Signal wiring

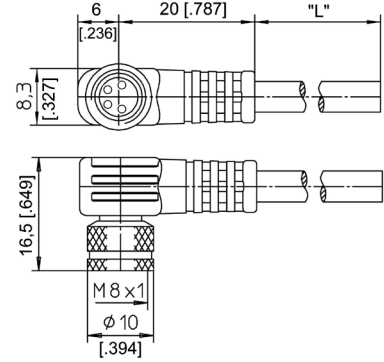
Signal	Connector pin no.	Cable color	View to sensor connector
Signal +	1	white	
Signal -	2	brown	
Not connected	3	-	
Not connected	4	-	
Not connected	5	-	
Not connected	6	-	
Not connected	7	-	
Not connected	8	-	

Accessories

Connector cable M8, 4 pin (angular coupling)

shielded

The 4-lead shielded cable is supplied with a mating 4-pin 90° M8 connector at one end and 4 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire cross sectional area 0.14 mm²



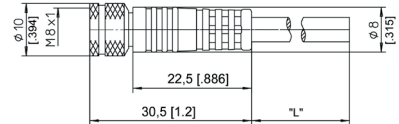
Order code:

	KAB - xM – M8/4F/W - LITZE
IP69:	KAB - xM – M8/4F/W/69K - LITZE
	xM = length in m

Connector cable M8, 4 pin (straight coupling)

shielded

The 4-lead shielded cable is supplied with a mating 4-pin M8 connector at one end and 4 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire cross sectional area 0.14 mm²



Order code:

	KAB - xM – M8/4F/G - LITZE
IP69:	KAB - xM – M8/4F/G/69K - LITZE
	xM = length in m

Signal wiring M8, 4 pin	Plug connection / Cable color			
	1	2	3	4
	brown	white	blue	black

Applicable for cable carriers

Maximum movement speed	3 m/s
Maximum acceleration	5 m/s ²
Minimum bending radius	10 x cable diameter

Mounting bracket WS42 / WS42C
(only for sensors with spacer nuts)

Order code **WS42-BFW1**

