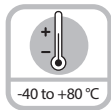


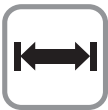
Linear Position Technology

Draw Wire Mechanics with Encoder or Analog Sensor

Draw Wire Encoder DW75



Wide
temperature
range



Long service
life



High protection
level

Robust

- Compact housing.
- High-strength stainless steel draw wire.
- Low friction design.
- Wide temperature range.



EtherCAT
Conformance tested

Analog
output

CANopen

SAE J1939

EtherNet/IP

Dynamic

- Traverse speed of 0.8 m/s.
- 3 m measuring length.

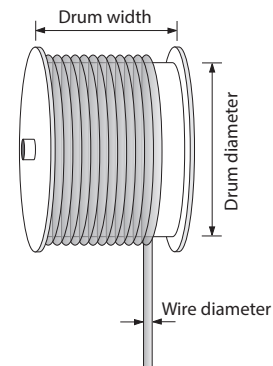
Versatile

- Suitable for various sensors/encoders:
Absolute, fieldbus, incremental and analog.
- Variable mounting possibilities.
- Flexible connection options:
Cable, connector, radial, axial.
- Scalable analog interface with
limit switch function.

Mechanical Characteristics (Draw Wire Mechanics):

Measuring range:	3,000 mm
Extension force:	Fmin 0.67 lbs (3.0 N)
Max. speed:	2.62 ft/s (0.8 m/s)
Working temperature:	-40 to +176 °F (-40 to +80 °C)
Repeat accuracy:	±0.15 mm
Linearity:	±0.35%
Weight:	approx. 1.10 lbs (500 g) (depending on the sensor/encoder used)
Materials:	housing: plastic/zinc die-cast wire: stainless steel Ø 0.9 mm, plastic coated
Protection (encoder only):	IP65

Operating Principle:



Construction:

The core of a draw wire device is a drum mounted on bearings, onto which a wire is wound. Winding takes place via a spring-loaded device.

Note:

Exceeding the maximum extension length of the draw wire will lead to damage to the wire and the mechanics.

Linear Position Technology

Draw Wire Mechanics with Encoder or Analog Sensor

TURCK

Draw Wire Encoder DW75

Electrical Characteristics (Analog Output, Scaled to Measuring Range):

Analog output [Key Code]:	0-10 V [8D]	4-20 mA [7F]	Potentiometer [PB]
Output:	0-10 V	4-20 mA	10 KΩ
Supply voltage:	15-28 VDC	15-28 VDC	max. 48 VDC
Load:	max. 500 Ω	max. 500 Ω	
Operating temperature:	-40 to +176 °F (-40 to +80 °C)	-40 to +176 °F (-40 to +80 °C)	-40 to +176 °F (-40 to +80 °C)
ROHS compliant according to EU guideline 2011/65/EU			

Part Number Key: DW75 with Encoder

A	B		C		D		E	F		G		H
DW	3000	-	75	-	10	-	2B	2000	-	H1181	/	Specials

A	Type
DW	Draw Wire

B	Measuring Range
3000	3000 mm Steel Wire

C	Housing
75	75 mm

D	Encoder Type
10	RI-10, Incremental
28	RM-28, Absolute, SSI
29	RM-29, Absolute, CANopen, EtherCAT, PROFIBUS-DP, PROFINET IO
103	RM-103, Absolute, SSI
105	RM-105, Absolute, CANopen, EtherNet/IP, Modbus
118	RM-118, Absolute, SSI
121	RM-121, Absolute, CANopen, SAE J1939

E	Voltage Supply and Output Type
	Dependent on Encoder Selected ¹⁾

F	Pulse Rate/Resolution
	Dependent on Encoder Selected ¹⁾

G	Type of Connection
	Dependent on Encoder Selected ¹⁾

H	Specials
	Dependent on Encoder Selected ¹⁾

¹⁾Recommended encoders listed below

Accessories:

- See page H1, Connectivity, for cables and connectors

Linear Position Technology

Draw Wire Mechanics with Encoder or Analog Sensor

Draw Wire Encoder DW75

Standard resolutions for draw wire with incremental encoder RI-10

Drum circumference (mm)	200	200	200
Pulses/revolution (ppr)	200	2000	4000
Pulses/mm	1	10	20
Resolution (mm)	1	0.1	0.05

Standard resolutions for draw wire with absolute encoder RM-118 or RM-121, (12-bit ST, programable via bus)

Drum circumference (mm)	200
Pulses/revolution (ppr)	4096
Pulses/mm	20.5
Resolution (mm)	0.05

Recommended standard variants (with incremental, absolute encoder)

Draw wire assembly	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
DW3000-75-10-2B2000-H1181	RI-10T6S-2B2000-H1181	Push-pull with inverted signal	10-30 VDC	Radial M12 connector	2000 ppr	-
DW3000-75-118-3C12S12M-H1181	RM-118T6S-3C12S12M-H1181	SSI	10-30 VDC	Radial M12 connector	4096 ppr / SSI-Gray-Code	-
DW3000-75-121-9D38B-H1151	RM-121T6S-9D38B-H1151	CANopen	10-30 VDC	Radial M12 connector	CANopen encoder profile DS406 V4.0	-

Other variants (with absolute encoder)

Draw wire assembly	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
DW3000-75-103-3C12S12M-H1181	RM-103T6S-3C12S12M-H1181	SSI	10-30 VDC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
DW3000-75-28-3C24B-H1181	RM-28T6S-3C24B-H1181	SSI	10-30 VDC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
DW3000-75-105-9D38B-B1M12/N46	RM-105T6S-9D38B-B1M12/N46	CANopen	10-30 VDC	1 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
DW3000-75-29-9D28B-R2M12/N46	RM-29T6S-9D28B-R2M12/N46	CANopen	10-30 VDC	2 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
DW3000-75-121-9F43B-H1151	RM-121T10C-9F43B-H1151	SAE J1939	10-30 VDC	1 x radial M12 connector	CAN high-speed acc. to ISO 11898, CAN specification 2.0 B	-
DW3000-75-29-9A28B-R3M12/N46	RM-29T6S-9A28B-R3M12/N46	PROFIBUS	10-30 VDC	3 x radial M12 connector	Profibus-DP V0 encoder profile Class 2	SET button
DW3000-75-29-9C28B-R3M12	RM-29T6S-9C28B-R3M12	EtherCAT	10-30 VDC	3 x radial M12 connector	EtherCAT with CoE 3.2.10	-
DW3000-75-29-9E28B-R3M12	RM-29T6S-9E28B-R3M12	PROFINET IO	10-30 VDC	3 x radial M12 connector	PROFINET encoder profile version 4.1	-
DW3000-75-105-9N32B-B3M12	RM-105T6S-9N32B-B3M12	EtherNet/IP	10-30 VDC	3 x axial M12 connector	EtherNet/IP	-

Part Number Key: DW75 with Encoder (analog, scalable with limit switch function)

A	B		C		D		E	F		G		H
DW	3000	-	75	-	116	-	7A	SALNS	-	H1151	/	Specials

A	Type
DW	Draw Wire

B	Measuring Range
3000	3000 mm Steel Wire

C	Housing
75	75 mm

D	Encoder Type
116	RM-116, Absolute

E	Voltage Supply and Output Type
	Dependent on Encoder Selected ¹⁾

F	Measuring Range
	Dependent on Encoder Selected ¹⁾

G	Type of Connetion
	Dependent on Encoder Selected ¹⁾

¹⁾Recommended encoders listed below

Accessories:

- See page H1, Connectivity, for cables and connectors

Draw Wire Encoder DW75

Recommended standard variants (with analog encoder, scalable with limit switch function)

Draw wire assembly	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
DW3000-75-116-7ASALWL-H1151	RM-116T6S-7ASALWL-H1151	Analog, 4-20 mA	10-30 VDC	Radial M12 connector	12 Bit / 4-20 mA	scalable without limit switch function ¹⁾
DW3000-75-116-8BSALWL-H1151	RM-116T6S-8BSALWL-H1151	Analog, 0-10 V	15-30 VDC	Radial M12 connector	12 Bit / 0-10 V	scalable without limit switch function ¹⁾
DW3000-75-116-7ASALNS-H1151	RM-116T6S-7ASALNS-H1151	Analog, 4-20 mA	10-30 VDC	Radial M12 connector	12 Bit / 4-20 mA	scalable with limit switch function ¹⁾
DW3000-75-116-8BSALNS-H1151	RM-116T6S-8BSALNS-H1151	Analog, 0-10 V	15-30 VDC	Radial M12 connector	12 Bit / 0-10 V	scalable with limit switch function ¹⁾

¹⁾Unscaled

Part Number Key: DW75 with analog sensor (scaled to measuring range)

A	B		C		D		E
DW	3000	-	75	-	7F	-	H1141

A	Type
DW	Draw Wire

B	Measuring Range
3000	3000 mm Steel Wire

C	Housing
75	75 mm

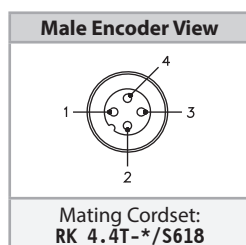
D	Voltage Supply and Output Type
7F	12-28 VDC, 4-20 mA
8D	12-28 VDC, 0-10 V
PB	48 VDC max, 10 KΩ, Potentiometer

E	Type of Connection
H1141	Radial 4-pin M12 Eurofast Connector

Standard Wiring:

Pin	Color	0-10 V	4-20 mA	10 kOhm
1	BN	V+	V+	V+
2	WH	Signal	N/C	Slider
3	BU	GND	Signal	GND
4	BK	GND Sig.	N/C	N/C

Wiring Diagram:



* Length in meters.

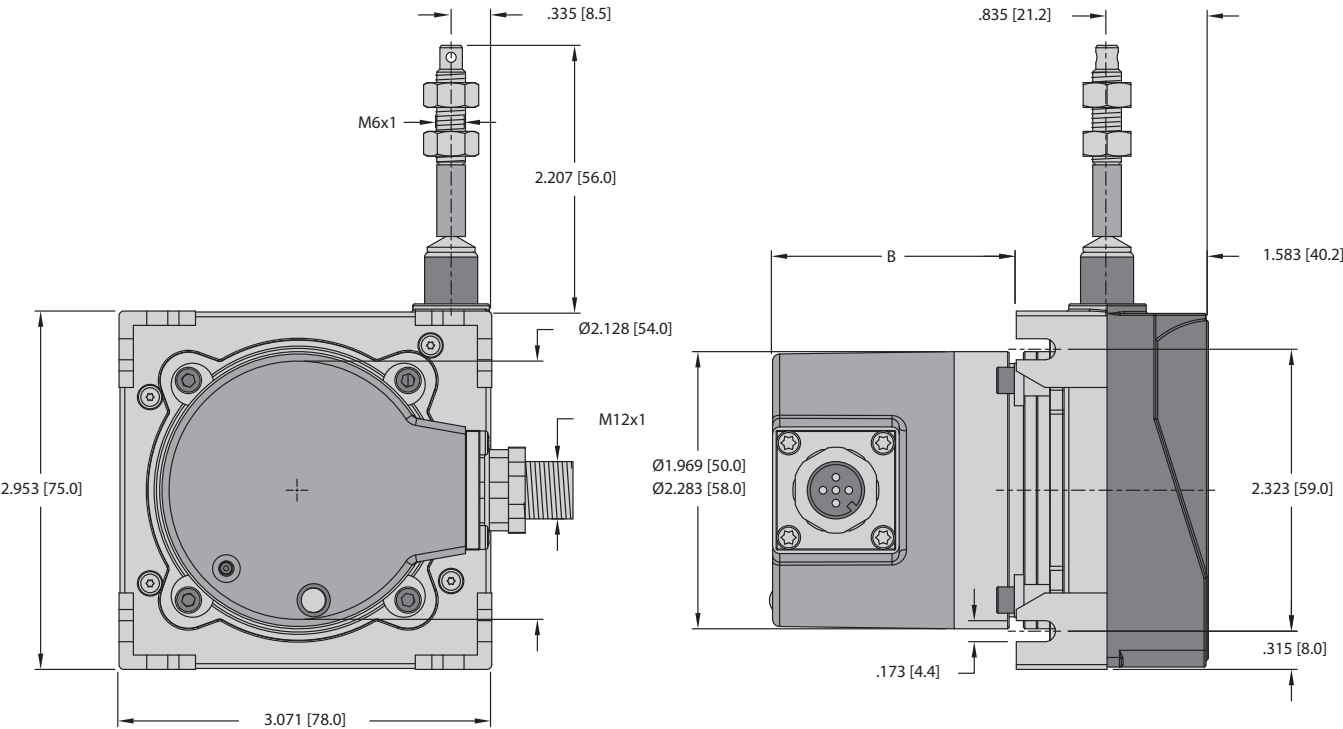
Accessories:

- See page H1, Connectivity, for cables and connectors

Linear Position Technology
Draw Wire Mechanics with Encoder or Analog Sensor

Draw Wire Encoder DW75

Dimensions: DW75 with Encoder

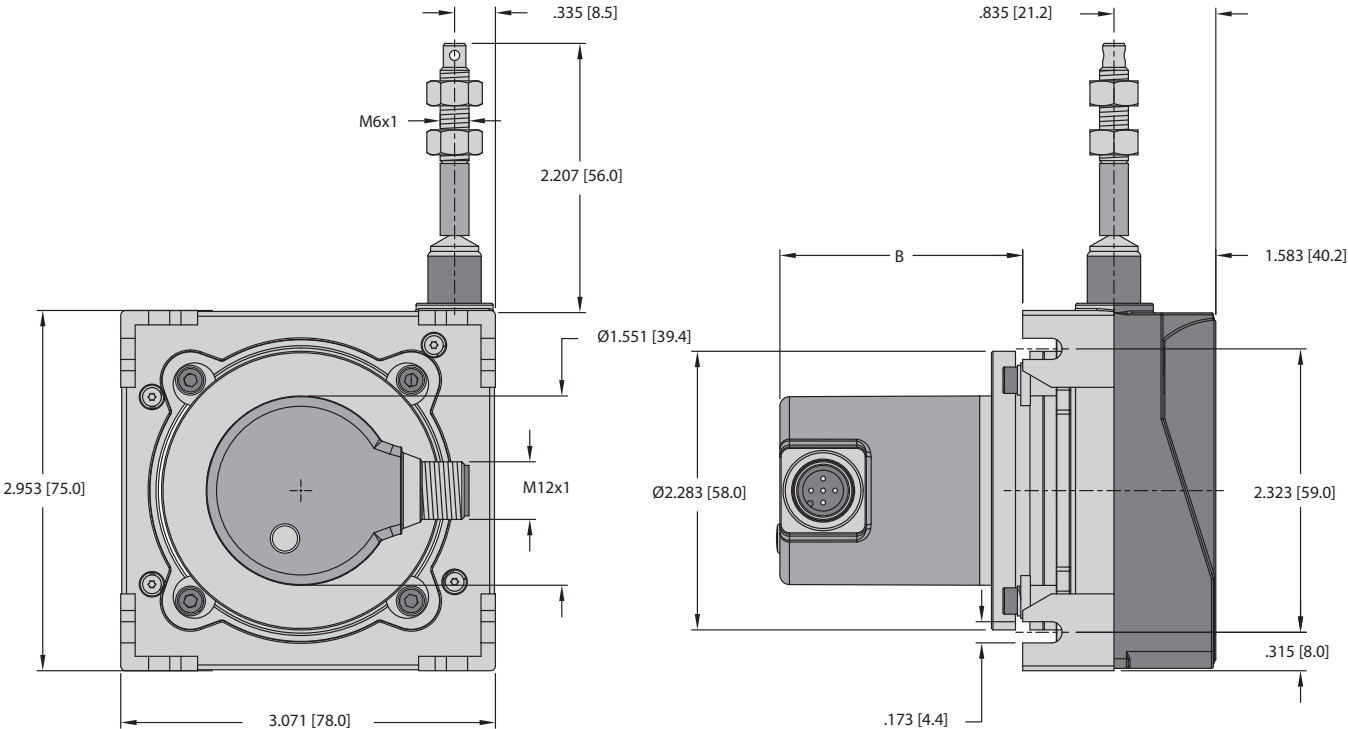


Dimension B depends on the encoder used

Encoder	Draw wire assembly	B in. [mm]
Incremental (RI-10)	DW*****-75-10-*****-*****	1.69 [43.0]
Absolute (RM-28)	DW*****-75-28-*****-*****	2.19 [55.5]
Absolute (RM-29)	DW*****-75-29-*****-*****	3.28 [83.2]
Absolute (RM-103)	DW*****-75-103-*****-*****	2.19 [55.5]
Absolute (RM-105) CANopen	DW*****-75-105-*****-*****	2.58 [65.5]
Absolute (RM-105) Ethernet/IP	DW*****-75-105-*****-*****	2.58 [65.5]

Draw Wire Encoder DW75

Dimensions: DW75 with analog sensor (scalable to measuring range)



Linear Position Technology

Dimension B depends on the encoder used

Encoder	Draw wire assembly	B in. [mm]
Absolute (RM-116)	DW*****75-116-*****_*****	1.99 [50.55]
Absolute (RM-118)	DW*****75-118-*****_*****	1.99 [50.55]
Absolute (RM-121)	DW*****75-121-*****_*****	1.99 [50.55]