

Linear Position Technology

Draw Wire Mechanics with Encoder or Analog Sensor

Standard Draw Wire Encoder DW125

Description

- Direct length measurement.
- High repeatability.



Compact

- Measuring lengths up to 6,000 mm.

Versatile

- Easy assembly.
- No additional guidance system.
- Wire guidance possible using guide pulleys.
- Multiple encoder outputs available.

Mechanical Characteristics of the Draw-Wire Encoder:

Measuring range:	up to 6,000 mm
Repeatability:	±0.15 mm
Extension force:	1.79 lbs (8 N)
Travel speed:	max. 9.84 ft/s (3,000 mm/s)
Required pull on spring:	min. 1.12 lbs (5 N) (on wire)
Drum circumference:	200 mm
Wire diameter:	parawire nylon 2.8 m: 1.05 mm, steel wire 6 m: 0.54 mm
Weight:	approx. 2.32 lbs (700 g)

Note:

If the maximum extension length is exceeded, the wire and transducer will be damaged.

Standard Draw Wire Encoder DW125

Part Number Key: DW125 with Encoder

A	B		C		D		E	F		G		H
DW	2800	-	125	-	10	-	2B	2000	-	H1181	/	Specials

A	Type
DW	Draw Wire

B	Measuring Range
2800	2800 mm Para Nylon Wire
6000	6000 mm Steel Wire

C	Housing
125	105 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

Standard Draw Wire Encoder DW125

Standard resolutions for draw wire with incremental encoder RI-10, drum circumference 200 mm

Encoder 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, drum circumference 200 mm

Pulses/revolution	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
DWxxxx-125-10-2B2000-H1181	RI-10T6S-2B2000-H1181	Push-pull with inverted signal	10-30 VDC	Radial M12 connector	2000 ppr	-
DWxxxx-125-118-3C12S12M-H1181	RM-118T6S-3C12S12M-H1181	SSI	10-30 VDC	Radial M12 connector	4096 ppr / SSI-Gray-Code	-
DWxxxx-125-121-9D38B-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
DWxxxx-125-103-3C12S12M-H1181	RM-103T10C-3C12S12M-H1181	SSI	10-30 VDC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
DWxxxx-125-28-3C24B-H1181	RM-28T10C-3C24B-H1181	SSI	10-30 VDC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
DWxxxx-125-105-9D38B-H1151/N46	RM-105T10C-9D38B-B1M12/N46	CANopen	10-30 VDC	1 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
DWxxxx-125-29-9D28B-R2M12/N46	RM-29T10C-9D28B-R2M12/N46	CANopen	10-30 VDC	2 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
DWxxxx-125-121-9F43B-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	-
DWxxxx-125-29-9A28B-R3M12/N46	RM-29T10C-9A28B-R3M12/N46	PROFIBUS	10-30 VDC	3 x radial M12 connector	Profibus-DP V0 encoder profile Class 2	SET button
DWxxxx-125-29-9C28B-R3M12	RM-29T10C-9C28B-R3M12	EtherCAT	10-30 VDC	3 x radial M12 connector	EtherCAT with CoE 3.2.10	-
DWxxxx-125-29-9E28B-R3M12	RM-29T10C-9E28B-R3M12	PROFINET IO	10-30 VDC	3 x radial M12 connector	PROFINET encoder profile version 4.1	-
DWxxxx-125-105-9N32B-B3M12	RM-105T10C-9N32B-B3M12	EtherNet/IP	10-30 VDC	3 x axial M12 connector	EtherNet/IP	-

Standard Draw Wire Encoder DW125

Part Number Key: DW125 with Encoder (analog, scalable with limit switch function)

A	B		C		D		E	F		G		H
DW	2800	-	125	-	116	-	7A	SARNS	-	H1151	/	Specials

A	Type
DW	Draw Wire

B	Measuring Range
2800	2800 mm Para Nylon Wire
6000	6000 mm Steel Wire

C	Housing
125	105 mm

D	Encoder Type
116	RM-116, Absolute, Analog

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

F	Measuring Range
	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

Linear Position Technology

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
DWxxxx-125-116-7ASALNS-H1151	RM-116T10C-7ASALNS-H1151	Analog, 4-20 mA	10-30 VDC	Radial M12 connector	12 Bit / 4-20 mA	scalable without limit switch function
DWxxxx-125-116-8BSALNS-H1151	RM-116T10C-8BSALNS-H1151	Analog, 0-10 V	15-30 VDC	Radial M12 connector	12 Bit / 0-10 V	scalable without limit switch function
DWxxxx-125-116-7ASALWL-H1151	RM-116T10C-7ASALWL-H1151	Analog, 4-20 mA	10-30 VDC	Radial M12 connector	12 Bit / 4-20 mA	scalable with limit switch function
DWxxxx-125-116-8BSALWL-H1151	RM-116T10C-8BSALWL-H1151	Analog, 0-10 V	15-30 VDC	Radial M12 connector	12 Bit / 0-10 V	scalable with limit switch function

Accessories:

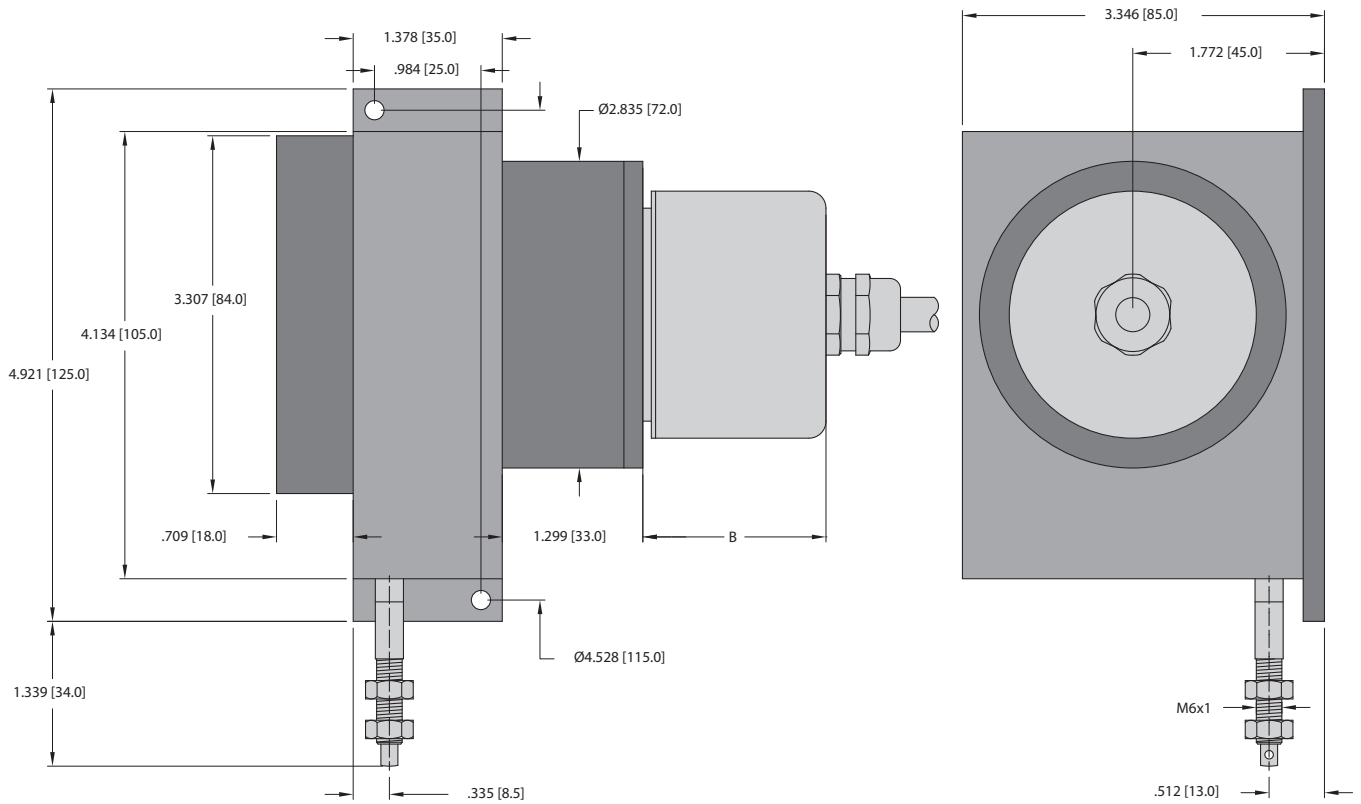
- See page H1, Connectivity, for cables and connectors

Linear Position Technology

Draw Wire Mechanics with Encoder or Analog Sensor

Standard Draw Wire Encoder DW125

Dimensions: DW125



Dimension B depends on the encoder used

Encoder	Draw wire assembly	B in. [mm]
Incremental (RI-10)	DW****-125-10_*****_*****	1.46 [37.0]
Absolute (RM-28)	DW****-125-28_*****_*****	1.95 [49.5]
Absolute (RM-29)	DW****-125-29_*****_*****	3.04 [77.2]
Absolute (RM-103)	DW****-125-103_*****_*****	1.95 [49.5]
Absolute (RM-105) [Ethernet/IP]	DW****-125-105_*****_*****	2.34 [59.4]
Absolute (RM-105) [CANopen]	DW****-125-105_*****_*****	2.76 [70.0]
Absolute (RM-116)	DW****-125-116_*****_*****	1.96 [49.8]
Absolute (RM-118)	DW****-125-118_*****_*****	1.96 [49.8]
Absolute (RM-121)	DW****-125-121_*****_*****	1.96 [49.8]