

Model Number

DZM58N-S22YYR0BN-1213

Features

- Industrial standard housing Ø58 mm
- 30 Bit multiturn
- Galvanically isolated DeviceNet interface
- 1.5 m cable length

Description

In addition to the CANopen, PROFIBUS and AS-Interface rotary encoders, we have broadened our product line of bus-capable absolute encoders with the DVM58 for DeviceNet.

The bus electronics module is integrated into the removable housing cover. This makes it possible to mount or replace the new rotary encoders and the matching bus electronics separately during installation or service.

Absolute encoders deliver an absolute step value for each angle setting. All these values are represented by code samples on one or more code disks. The code disks are screened by an infrared LED and the bit obtained sample is detected by an optical array. Its signals are electronically amplified and are forwarded on to the interface for processing.

The absolute encoder has a maximum basic resolution of 65536 steps per revolution (16 Bits). In the multiturn design, additional up to 16384 revolutions (14 Bits) can be resolved. This results in a total maximum resolution of 1073741824 steps (30 Bits).

The integrated CAN bus interface of the absolute encoder supports all DeviceNet functions. The following operating modes can be programmed, and can be selectively turned on or off:

- Polled mode
- Change of state mode
- Cyclic mode

Technical data

General specifications

Measuring range	... mm
Travel speed	max. 8 m/s
Acceleration	max. 40 m/s ²
Linearity error	typ. 0.1 % / 0.5 %

Nominal ratings

Cable pull	
Run per revolution	200 mm
Retraction force	min. 5 N
Extraction force	max. 12 N

Electrical specifications

Operating voltage U_B	10 ... 30 V DC
No-load supply current I_0	max. 350 mA
Output code	binary code
Code course (counting direction)	cw ascending (clockwise rotation, code course ascending) cw descending (clockwise rotation, code course descending)

Interface

Interface type	DeviceNet
Resolution	
Single turn	up to 16 Bit
Multiturn	14 Bit
Overall resolution	up to 30 Bit
Transfer rate	max. 0.5 MBit/s

Connection

Cable	1.5 m cable with Male connector 7/8"-16 UN , 5-pin
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Standard conformity

Degree of protection	DIN EN 60529, shaft side: IP64 (without shaft seal)/IP66 (with shaft seal) housing side: IP65
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 1000 Hz

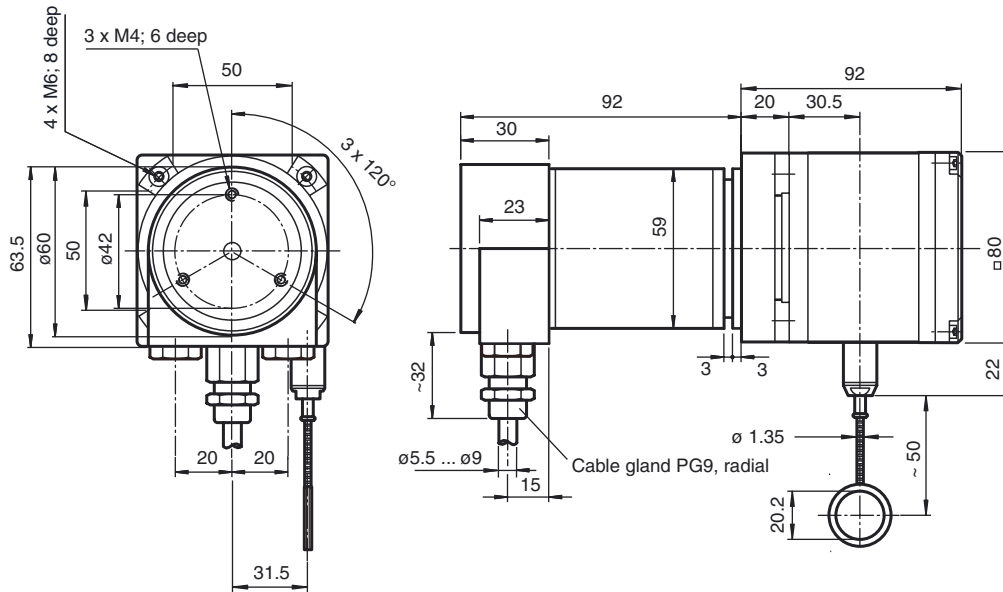
Ambient conditions

Operating temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

Mechanical specifications

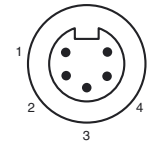
Material	housing: powder coated aluminum flange: aluminum shaft: stainless steel
Mass	approx. 1900 g

Dimensions

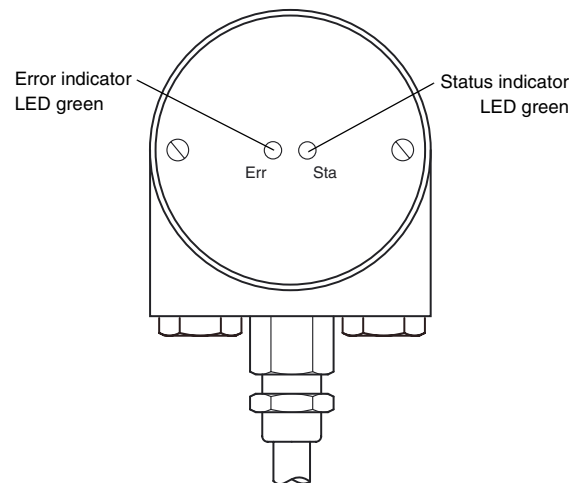
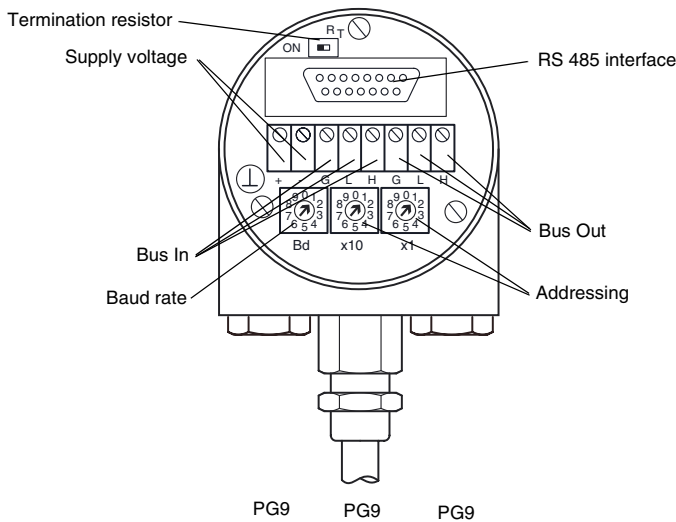


Electrical connection

Terminal	Cable	Explanation
2	RD	Ub
3	BK	GND
4	WH	CAN High
5	BU	CAN Low
Shield	Cable gland screw	

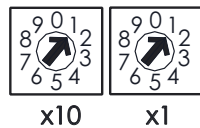


Indicating and operating elements



Adjusting the participant address

The participant address can be adjusted with the rotary switches. The address can be defined between 1 and 63, and may only be assigned once.



Adjusting the termination resistor

The terminating resistor R_T (121 Ω) can be connected to the circuit by means of the switch:



Baud rate adjustment

Baud rate [kBit/s]	Switch position
125	0
250	1
500	2
125	3
reserved	4 ... 9

LED-indicators

LED red	LED green	Meaning
off	off	No voltage supply
off	on	Encoder ready, boot-up message not transmitted, yet. Possible reasons: - no further participant present - wrong baud rate - encoder in prepared status
flashing	on	Boot-up message transmitted, Device configuration possible.
on	on	Normal operation mode, encoder in operational status.

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Programmable CAN operating modes

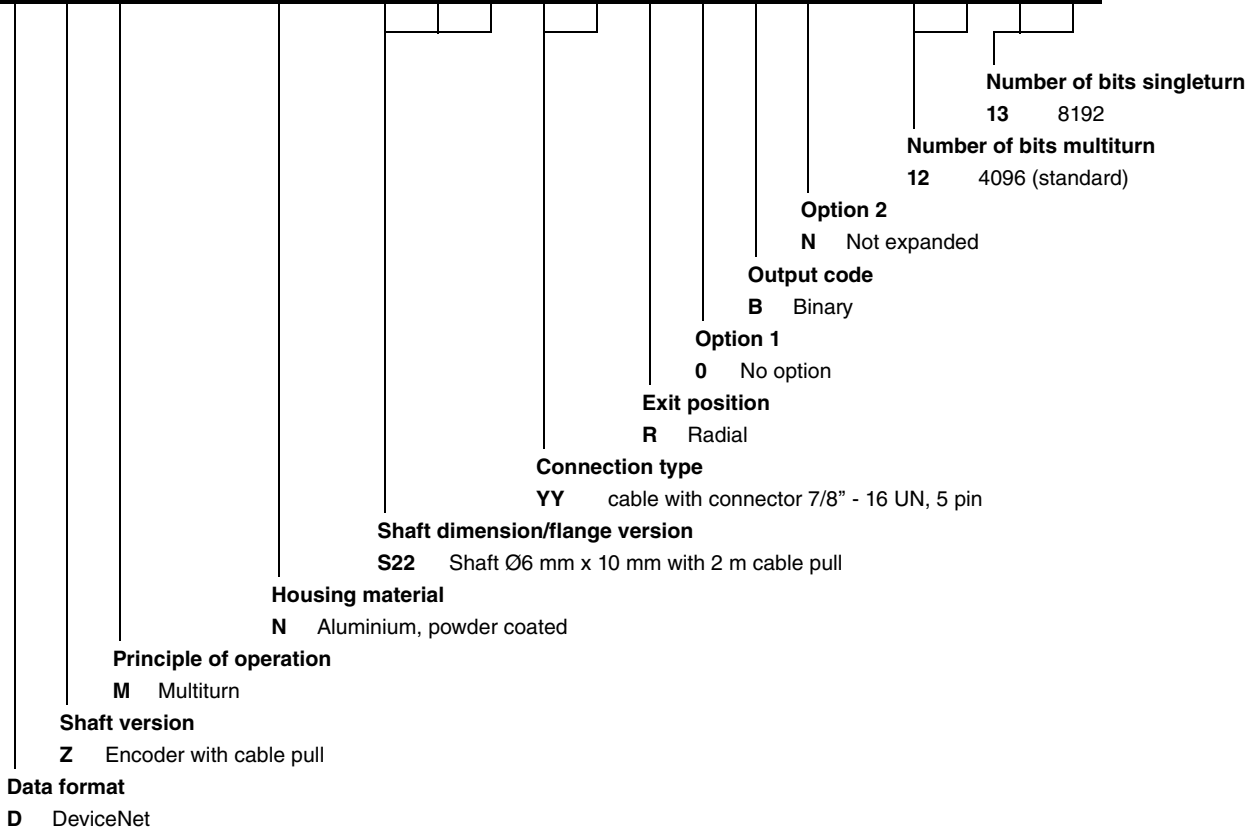
Mode	Explanation
Polled mode	The connected host requests the current actual position value via a telegram. The absolute encoder reads in the current position, calculates all parameters that may have been set and then sends back the actual process value.
Cyclic mode	The absolute encoder sends the current process value depending on a programmable timer. This can cause the bus load to be reduced since the member on the network only sends a message after a specific amount of time without a prompt from the master.
Change of state mode	The absolute encoder monitors the current process value and transfers the current value by itself if there is any change in the value. This can cause the bus load to be reduced, since the member on the network only sends a message if there has been a change.

Programmable rotary encoder parameters

Parameter	Explanation
Operating parameter	The direction of rotation (complement) can be specified by parameter as the operating parameter. This parameter determines the direction of rotation in which the output code will be rising or descending.
Resolution per revolution	The "Resolution" parameter is used to program the rotary encoder so that a desired number of steps can be implemented in reference to a revolution.
Overall resolution	This parameter indicates the desired number of measurement units of the entire travel length. This value must not exceed the overall resolution of the absolute encoder. If the absolute encoder is used in infinite mode, the overall resolution parameter can only take on values that are powers of 2 (2x).
Preset value	The preset value is the desired position value that must be achieved for a specific physical setting of the axis. The preset value parameter is used to set the actual position value to the desired actual process value.

Order code

D Z M 5 8 N - S 2 2 Y Y R 0 B N - 1 2 1 3



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