

- Industrial standard housing Ø58 mm
- 30 Bit multiturn
- Galvanically isolated DeviceNet interface
- Servo or clamping flange



- 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.

Technical drawing of the 1000 Series Ball Valve, showing side and end views with dimensions.

Side View Dimensions:

- Overall length: L
- Flange thickness: 30
- Flange outer diameter: $\varnothing 58$
- Flange inner diameter: $\varnothing 53$
- Flange bore diameter: $\varnothing 36$
- Flange to body distance: 10
- Body diameter: d^{**}
- Body length: 27.5
- Body to handle distance: 18
- Handle diameter: 10
- Handle length: 1
- Handle to body distance: 3
- Handle to body distance: 3.5
- Handle to body distance: 25
- Handle to body distance: 12.7

End View Dimensions:

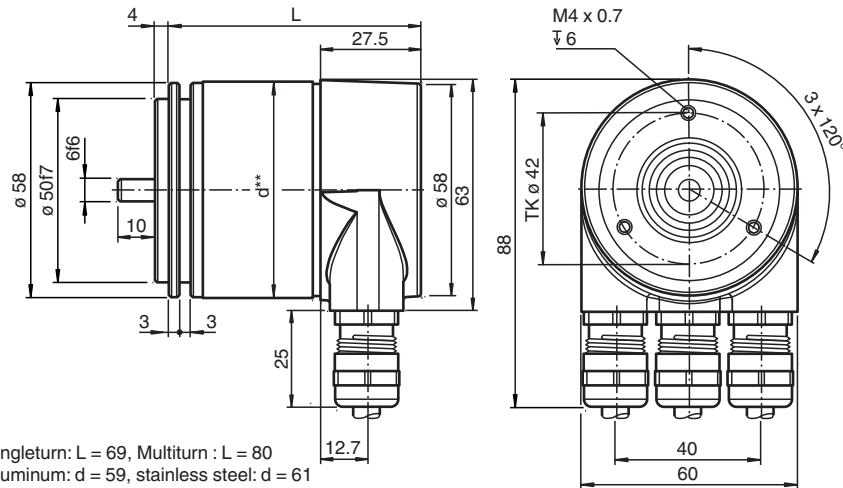
- Flange outer diameter: $\varnothing 58$
- Flange inner diameter: $\varnothing 53$
- Flange bore diameter: $\varnothing 36$
- Flange to body distance: 10
- Body diameter: d^{**}
- Body length: 27.5
- Body to handle distance: 18
- Handle diameter: 10
- Handle length: 1
- Handle to body distance: 3
- Handle to body distance: 3.5
- Handle to body distance: 25
- Handle to body distance: 12.7

Notes:

- * Singleturn: $L = 69$, Multiturn : $L = 80$
- ** Aluminum: $d = 59$, stainless steel: $d = 61$

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** Aluminum: d = 59, stainless steel: d = 61

Dimensions



Technical Data

General specifications

Detection type	photoelectric sampling
Device type	Multiturn absolute encoder

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	max. 230 mA at 10 V DC max. 100 mA at 24 V DC
Time delay before availability	t_v	< 250 ms
Linearity		± 2 LSB at 16 Bit, ± 1 LSB at 13 Bit, $\pm 0,5$ LSB at 12 Bit
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

Terminal compartment	in removable housing cover
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Standard conformity

Degree of protection	DIN EN 60529, IP65 IP66 (with shaft seal)
Climatic testing	DIN EN 60068-2-30 , no moisture condensation
Emitted interference	DIN EN 61000-6-4
Noise immunity	DIN EN 61000-6-2
Shock resistance	DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 20 g, 10 ... 2000 Hz

Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
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Ambient conditions

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

Mechanical specifications

Material	
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Technical Data

Combination 1	housing: powder coated aluminum flange: aluminum shaft: stainless steel
Combination 2 (Inox)	housing: stainless steel flange: stainless steel shaft: stainless steel
Mass	approx. 700 g (combination 1) approx. 1200 g (combination 2)
Rotational speed	max. 12000 min ⁻¹
Moment of inertia	30 gcm ²
Starting torque	≤ 3 Ncm (version without shaft seal)
Shaft load	
Axial	40 N
Radial	110 N

Accessories

	9203	Angled flange
	AH 58-B1CA-2BW	Connection cover
	9310-3	Synchro clamping element
	9300	Mounting bracket for servo flange
	KW-10/10	Helical coupling
	KW-6/10	Helical coupling
	KW-6/6	Helical coupling
	KW-6/8	Helical coupling
	9401 10*10	Spring steel coupling
	9401 10*12	Spring steel coupling
	9401 6*10	Spring steel coupling
	9401 6*6	Spring steel coupling
	9402 6*6	Spring steel coupling
	9404 10*10	Spring disk coupling
	9404 6*6	Spring disk coupling

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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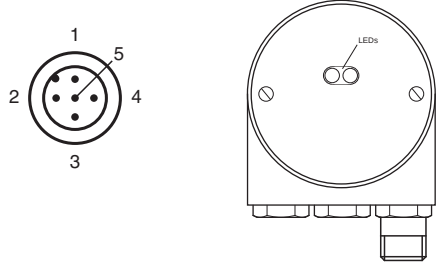
 **PEPPERL+FUCHS**

Accessories

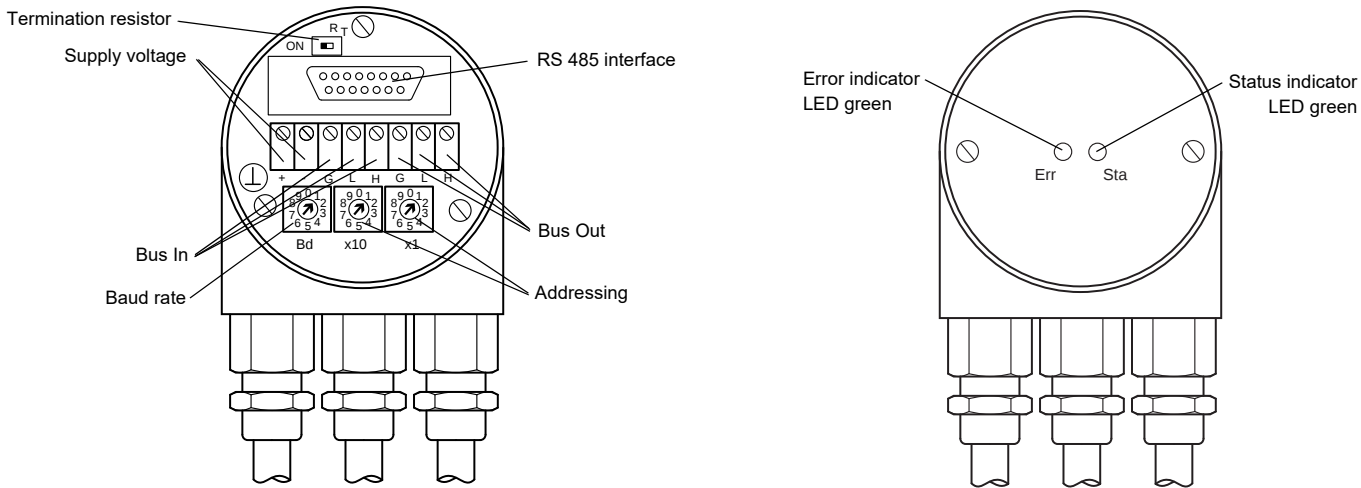
	9409 10*10	Bellows coupling
	9409 6*10	Bellows coupling
	9409 6*6	Bellows coupling
	9409 6*8	Bellows coupling
	9410 10*10	Precision coupling
	9410 6*6	Precision coupling
	MBT-36ALS	Spring-loaded mounting bracket with a diameter of 36 mm

Connection

Terminal	Cable	M12 x 1 Connector	Explanation
⊥	-	-	Ground connection for power supply
(+)	Red	2	Power supply
(-)	Black	3	Power supply
CG	-	1	CAN ground
CL	Blue	5	CAN low
CH	White	4	CAN high
CG	-	-	CAN ground
CL	Blue	-	CAN low
CH	White	-	CAN high

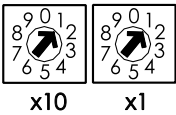


Configuration



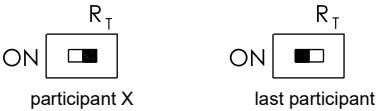
Adjusting the participant address

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.

Parameterization**Programmable CAN operating modes**

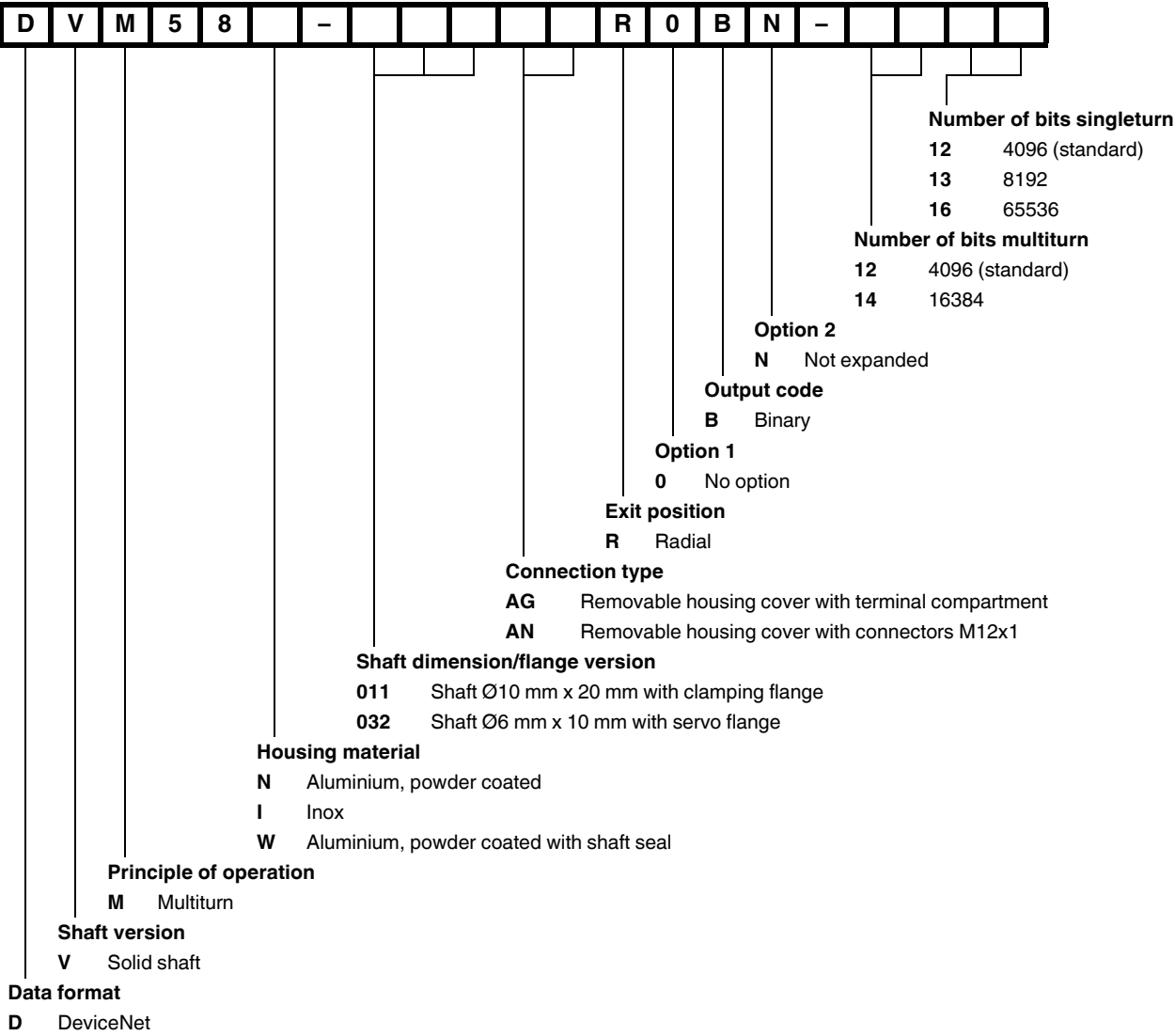
Mode	Explanation
Polled mode	The connected host requests the current actual position value via a telegram. The absolute encoder reads in the current position, calculates all parameters that may have been set and then sends back the actual process value.
Cyclic mode	The absolute encoder sends the current 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.

Type Code

Order code



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