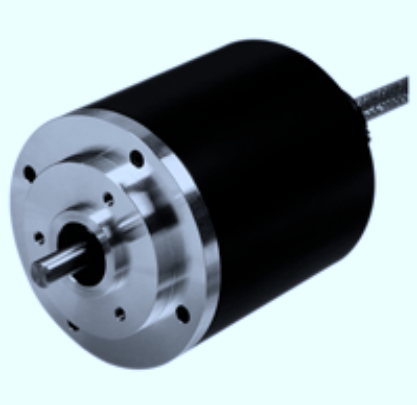

0102

DeviceNet

Model Number

DVM14

Features

- **25-bit multiturn**
- **ATEX approval**
- **Flameproof enclosure**
- **Galvanically isolated DeviceNet interface**

Description

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
- Cyclic mode
- Sync mode

The shaft is specially equipped with a feather key groove for receiving a belt pulley or similar device. The permissible radial force is 80 N, while the permissible axial force is 60 N.

One special feature is the mechanical versatility of the flange. The absolute encoder has one centering shoulder with a diameter of 40 mm and one with a diameter of 80 mm. Three M6 holes are available for fastening.

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. 190 mA
Linearity	± 1 LSB
Output code	binary code
Code course (counting direction)	programmable, cw ascending (clockwise rotation, code course ascending) cw descending (clockwise rotation, code course descending)
Interface	
Interface type	DeviceNet
Resolution	
Single turn	13 Bit
Multiturn	12 Bit
Overall resolution	25 Bit
Transfer rate	max. 0.5 MBit/s
Connection	
Cable	Ø11.2 mm, 9-core, 2 m
Standard conformity	
Degree of protection	DIN EN 60529, IP66
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*, 3 ms
Vibration resistance	DIN EN 60068-2-6, 10 *g*, 10 ... 2000 Hz
Ambient conditions	
Operating temperature	
Gas Ex-area	-40 ... 55 °C (-40 ... 131 °F)
Dust Ex-area	-30 ... 55 °C (-22 ... 131 °F)
Storage temperature	
Gas Ex-area	-40 ... 70 °C (-40 ... 158 °F)
Dust Ex-area	-30 ... 70 °C (-22 ... 158 °F)
Mechanical specifications	
Material	
Housing	aluminum
Flange	aluminum
Shaft	Stainless steel
Mass	approx. 3400 g
Rotational speed	max. 6000 min^{-1}
Moment of inertia	400 gcm^2
Starting torque	≤ 5 Ncm
Shaft load	
Axial	60 N
Radial	80 N
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	ZELM 02 ATEX 0078 X
Group, category, type of protection	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T80°C Db IP66
Directive conformity	
Directive 94/9/EC	EN 60079-0:2012 EN 60079-1:2007 EN 60079-31:2009

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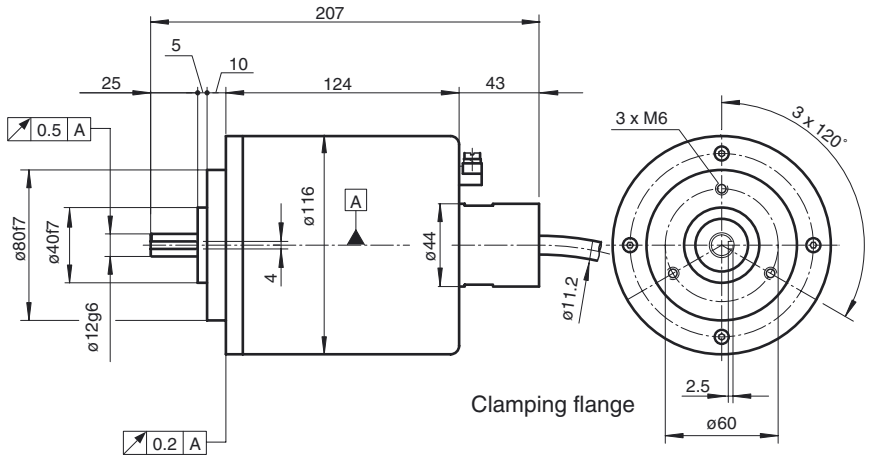
Dimensions



Electrical connection

Signal	Cable Ø11.2 mm, 9-core
GND encoder	1
U_S encoder	2
CAN Low	3
CAN High	4
CAN GND	5
CAN Low	6
CAN High	7
CAN GND	8
potential earth	GN/YE

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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	V	M	1	4	N	–	0	5	M	K	2	A	P	R		-	1	2	1	3

Number of bits, Single-turn
13 8192

Number of bits, Multiturn
12 4096

Option
0 without termination resistor

Bus address
PR user programmable
Default values:
Node number: 63
Baud rate: 125 kbits/s

Exit position
A axial

Connection type
K2 cable, 2 m

Shaft dimensions/flange version
05M Shaft Ø12 mm x 25 mm with fit Ø 40 mm

Housing material
N Aluminium

Principle of operation
M Multiturn

Shaft version
V Solid shaft

Data format
D DeviceNet

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