



Model Number

PVS14

Features

- 13 Bit singleturn
- ATEX approval
- Flameproof enclosure
- PROFIBUS interface
- Class 1 and 2 in accordance with PNO profile 3.062

Description

This series of PROFIBUS rotary encoders is based on the modern fast technology of singleturn sampling. The absolute encoder corresponds to the PROFIBUS profile for encoders, order no. 3.062. Operation is supported based on Class 1 and Class 2.

For operation based on Class 1, position data and diagnostic data bytes 1 ... 16 are available. In addition, the direction of the code can be selected as either cw (clockwise ascending) or ccw (clockwise descending).

If the rotary encoder is operated according to Class 2, additional functions to those from Class 1 are available. These include scaling of the resolution per revolution and the overall resolution, as well as the preset function. In addition, expanded diagnostic reporting is supported with 59 bytes. The hours of operation counter can either be fully activated, passively activated for summation or deactivated.

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

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 PROFIBUS

Resolution

Single turn 13 Bit

Transfer rate 0.0096 ... 12 MBit/s

Standard conformity PNO profile 3.062

Connection

Cable \varnothing 11.2 mm, 9-core, 2 m

Standard conformity

Protection degree 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 gcm²

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

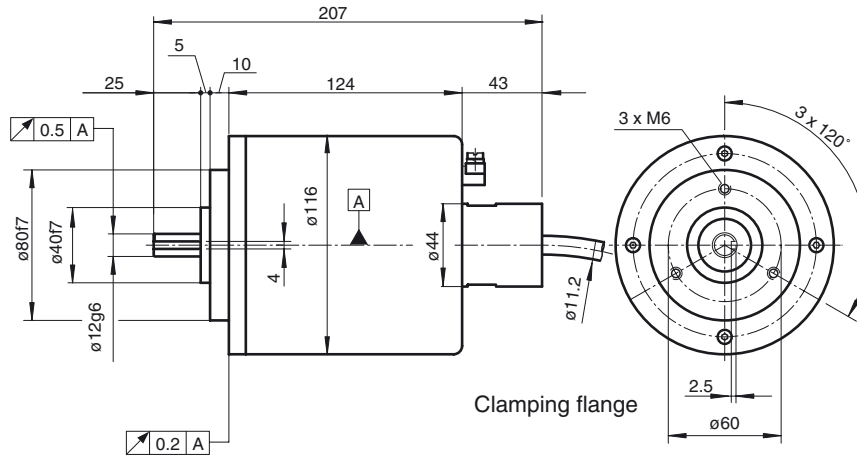
Group, category, type of protection (Ex) II 2G Ex db IIC T6 Gb

(Ex) 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

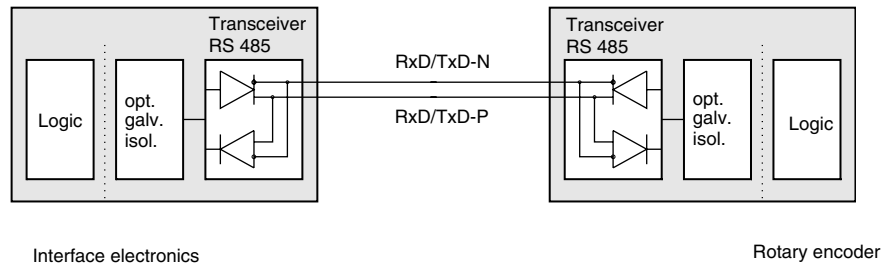
Dimensions



Electrical connection

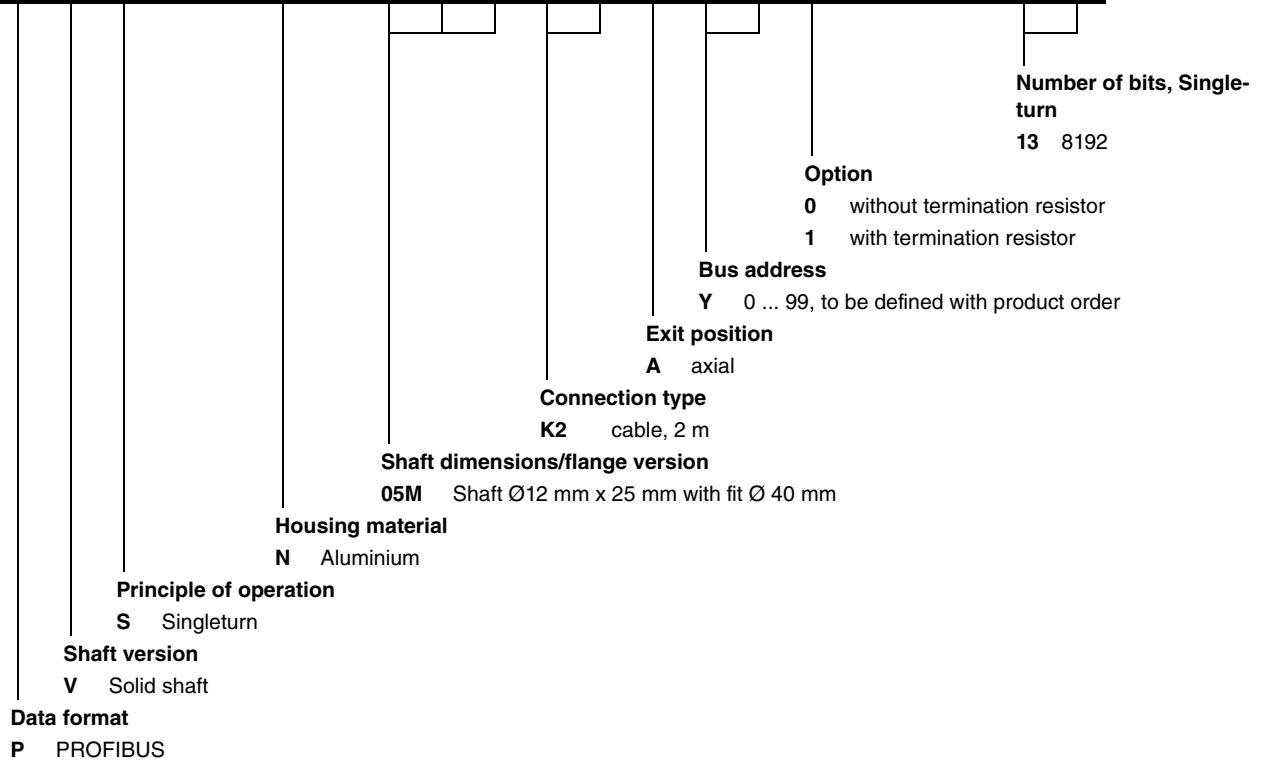
Signal	Cable Ø11.2 mm, 9-core	Description
GND encoder	1	
U_S encoder	2	
RxD/TxD-P	3	Data wire B (pair 1), bus in
RxD/TxD-N	4	Data wire A (pair 1), bus in
RxD/TxD-P	5	Data wire B (pair 2), bus out
RxD/TxD-N	6	Data wire A (pair 2), bus out
n. c.	7	
n. c.	8	
potential earth	GN/YE	

Interface



Order code

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



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