

# Incremental shaft encoders BDM/BDW

## features

- square mounting flange
- industry standard 3/8" shaft
- aluminum die-cast housing
- radial and axial connector base or cable connection



BDM



BDW

## general data

voltage supply	5 VDC $\pm 10\%$ <b>(05A)</b> 10 - 30 VDC <b>(24K)</b>
max. supply current no load	60 mA (at 5 VDC) 60 mA (at 24 VDC)
pulse range	see order designation
pulse tolerance	$\pm 10\%$
max. switching frequency	200 kHz <b>(24K)</b> 300 kHz <b>(05A)</b>

## mechanical data

max. revolutions	6'000 rpm
moment of inertia	typ. $17,5 \times 10^{-7}$ kgm <sup>2</sup>
torque	typ. 4 cNm (3'000 rpm / 20 °C)
max. shaft load	axial: 50 N      radial: 100 N
product life	depending on ambient conditions (typ. $10^9$ revolutions)
max. protection class	shaft: IP 65      housing: IP 67
material	housing: aluminum flange: aluminum
weight	BDM approx. 400 g BDW approx. 300 g

## ambient conditions

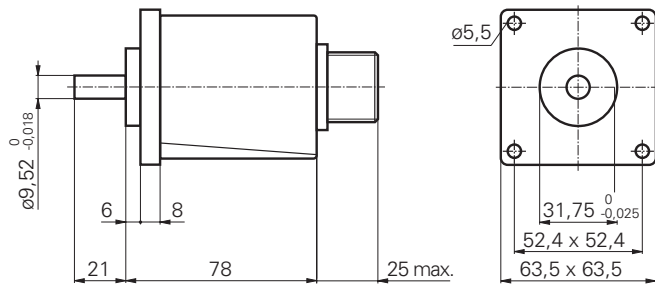
temperature range	-20...+85 °C
relative humidity	max. 95% non condensing
vibration	IEC 60068-2-6 ( $\leq 100$ m/s <sup>2</sup> / 10 - 200 Hz)
shock	IEC 60068-2-27 ( $\leq 500$ m/s <sup>2</sup> / 11 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3



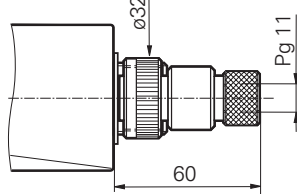
dimensions and connection dimensions

BDM

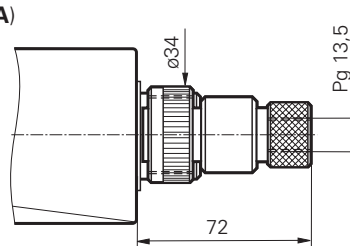
-8



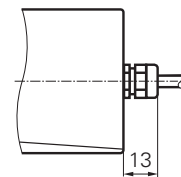
-8 (24K)



-8 (05A)

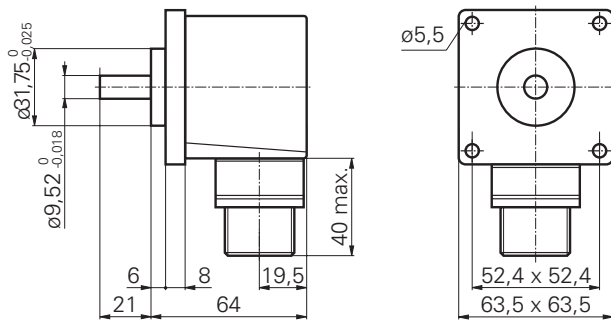


-4

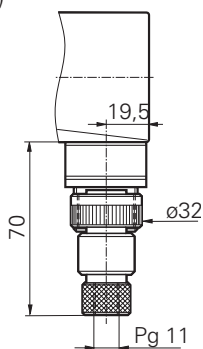


BDW

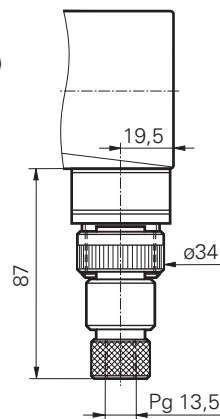
-7



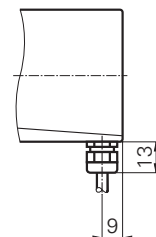
-7 (24K)



-7 (05A)



-5



# Incremental shaft encoders BDM/BDW

## assignment cable

for connection reference **-4** and **-5**

**05A** (5 VDC complementary)

cable color	signals
brown	+Vs
green	CHA
red	CHA compl.
yellow	CHB
blue	CHB compl.
pink	CHN
grey	CHN compl.
white	0V
screen	connected to connector housing
cable	8 x 0,14 mm <sup>2</sup> , max. ext. ø 5,7 mm

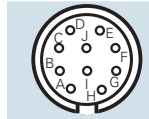
**24K** (10 - 30 VDC push-pull, short-circuit protection)

cable color	signals
brown	+Vs
green	CHA
yellow	CHB
pink	CHN
white	0V
screen	connected to connector housing
cable	5 x 0,14 mm <sup>2</sup> , max. ext. ø 5,4 mm

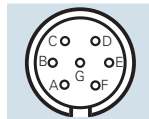
## assignment connector M23 male

for connection reference **-7** and **-8**

**05A** (5 VDC complementary)



pin number	signals
A	CHA
B	CHB
C	CHN
D	+Vs
E	+Vs
F	0 V
G	CHA compl.
H	CHB compl.
I	CHN compl.
J	housing

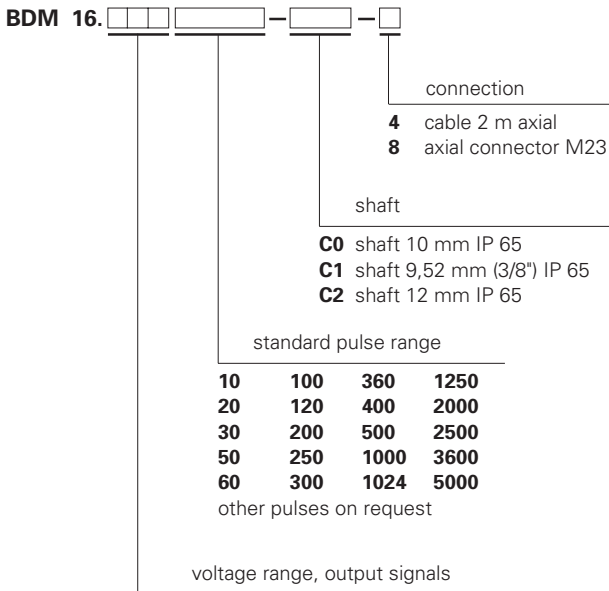


**24K** (10 - 30 VDC push-pull, short-circuit protection)

pin number	signals
A	CHA
B	CHB
C	CHN
D	+Vs
E	+Vs
F	0V
G	housing

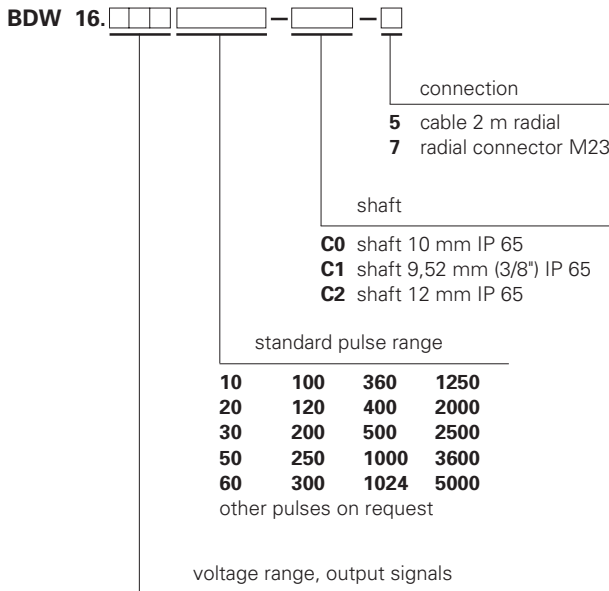


## order designation BDM



- 05A** 5 VDC complementary
- 24K** 10 - 30 VDC push-pull, short-circuit protection

## order designation BDW



- 05A** 5 VDC complementary
- 24K** 10 - 30 VDC push-pull, short-circuit protection

Other versions on request.

## accessories

connector M23 female reference **-7** and **-8**  
 for complementary **05A** part nr. 106012  
 for short-circuit protection **24K** part nr. 106011  
 couplings see chapter accessories