



Incremental encoders
DFV60 measuring wheel encoder

DFV60A-22PK65536



Model Name > [DFV60A-22PK65536](#)
Part No. > [1051331](#)



Illustration may differ

At a glance

- Rotatable spring arm for universal use
- 300 mm wheel circumference with o-ring made from NBR70
- Mounting arm and measurement wheels made from aluminum
- Programmable output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: radial M12 connector outlet or radial/axial cable outlet
- Electrical interfaces: 5V & 24V TTL/RS-422, 24 V HTL/push pull
- Remote zero setting possible

Your benefits

- Universal-use spring arm ensures fast and simple mounting
- The high level of spring tension enables use in harsh environmental conditions
- Reduced storage costs and downtime due to programmability
- Connector-in cable outlet in radial or axial direction enables customer-specific cable solutions
- Excellent concentricity even at high speeds
- Permanent and safe operation due to a high enclosure rating, temperature resistance and a long bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly according to customer needs
- Programmable zero pulse position simplifies installation



Performance

Measuring step deviation:	± 0.002 °
Initialization time:	30 s
Error limits 'O' ring surface:	± 0.03 mm
Pulses per revolution:	65,536

Mechanical data

Mechanical interface:	2 measuring wheels, 'O' ring surface
Mass:	0.5 kg
Maximum operating speed:	3,000 U/min ¹⁾
Bearing lifetime:	3 x 10 ⁹ revolutions
Spring deflection spring arm:	40 mm
Preload spring arm:	20 mm

1) Self-warming 3.3 K/1,000 1/min, when applying note working temperature range

Electrical data

Electrical interface:	4.5 V ... 5.5 V, TTL/HTL programmable, Cable, universal, 1.5 m
Connection type:	Cable, universal, 1.5 m
Supply voltage:	4.5 V ... 5.5 V
Output current:	30 mA
Maximum output frequency:	820 kHz
Reference signal, number:	1
Reference signal, position:	90 °, electronically, gated with A and B
MTTFd: mean time to dangerous failure:	300 a (EN ISO 13849-1) ¹⁾

1) This product is a standard product and does not constitute a safety component as defined in the Machinery Directive.

Calculation based on nominal load of components, average ambient

temperature 40°C, frequency of use 8760 h/a. All

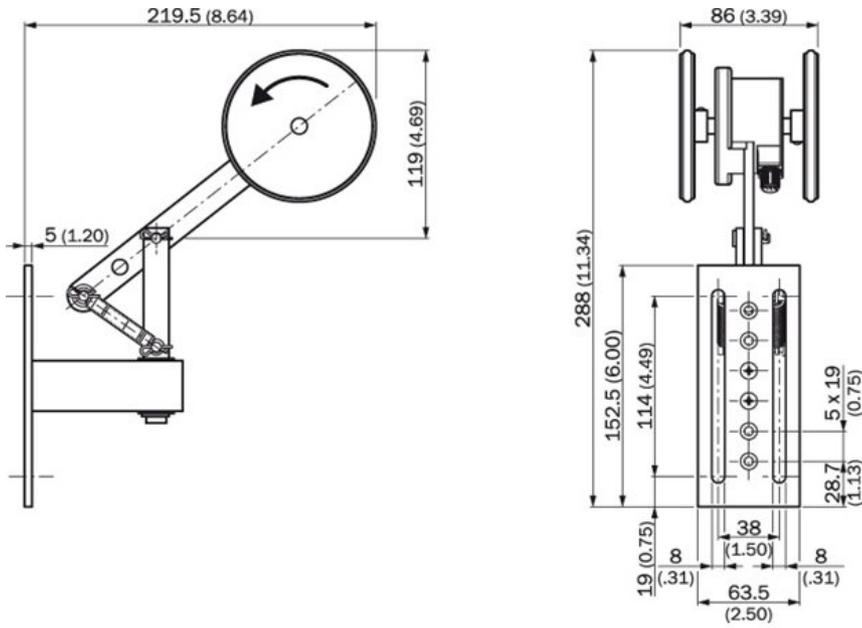
electronic failures are considered hazardous. For more information, see document no. 8015532.

Ambient data

EMC:	EN 61000-6-2, EN 61000-6-3
Protection class standard:	IEC 60529
Air humidity:	90 % ¹⁾
Working temperature range:	-20 °C ... 100 °C
Storage temperature range:	-40 °C ... 100 °C, without package
Resistance to shocks:	70 g, 6 ms (EN 60068-2-27)
Resistance to vibration:	30 g, 2,000 Hz ... 10 Hz (EN 60068-2-6)
Enclosure rating:	IP 65

1) Condensation of the optical scanning not permitted

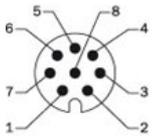
Dimensional drawing



PIN assignment

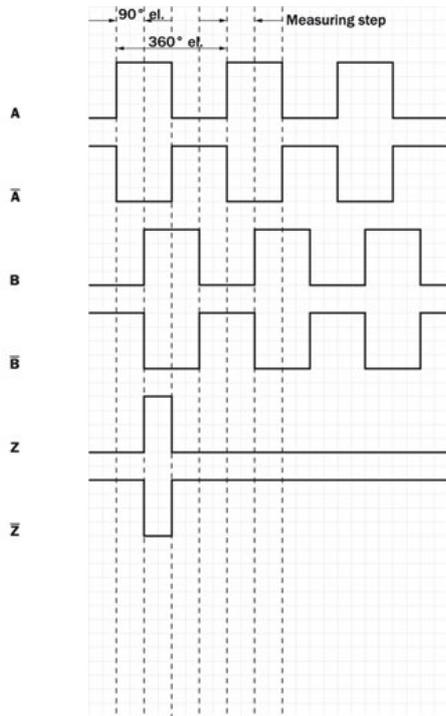
Cable 8-core

View to the connector M12 fitted to the encoder body



PIN, 8-pin, connector M12	Color of wires for encoders with cable outlet	Signal TTL, HTL	Explanation
1	Brown	\bar{A}	Signal line
2	White	A	Signal line
3	Black	\bar{B}	Signal line
4	Pink	B	Signal line
5	Yellow	\bar{Z}	Signal line
6	Lilac	Z	Signal line
7	Blue	GND	Ground connection of the encoder
8	Red	+U _s	Supply voltage (potential free to housing)
Screen	Screen	Screen	Screen connected to encoder housing. On the control side connected to earth.

Signalausgänge



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