



## Motor feedback systems rotary incremental VFS60

VFS60E-T5AK02048

**Model Name** > [VFS60E-T5AK02048](#)  
**Part No.** > [1036121](#)



**At a glance**

- TTL, HTL or sine 0.5 VSS interfaces
- Resolution of up to 65,536 lines per revolution
- Individual programming of the interface, line count and of the zero pulse
- Direct programming via RS485
- Excellent concentricity through large distance between the ball bearings
- Exceptional robustness and protection class IP 65
- Mechanical flexibility through blind hollow shaft and through hollow shafts with diameters of 8 to 15 mm, available with various torque supports
- Temperature range from -30 °C to +100 °C

**Your benefits**

- Programmable version for a reduced product variety
- Various programming tools designed to take into account your own programming requirements
- High performance and reliability even in rough ambient conditions
- Large ball bearing distances reduce uneven wear and minimize vibration on the motor feedback housing, which increases the motor feedback system's service life
- High vibration resistance and extended temperature range through nickel code disk



**Performance**

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Number of lines per revolution:	2,048
Reference signal, number:	1
Reference signal, position:	90 ° electronically, gated with A and B
Error limits:	± 0.3 °
Measuring step deviation:	± 0.2 °
Maximum initialisation time:	40 ms

**Mechanical data**

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Shaft diameter:	12 mm
Shaft material:	Plastic
Shaft plug-in length:	≥ 48 mm
Flange type/stator coupling:	Standard
Dimensions:	See dimensional drawing
Mass:	0.2 kg
Moment of inertia of the rotor:	40 gcm <sup>2</sup>

Maximum operating speed:	9,000 /min <sup>1)</sup>
Maximum angular acceleration:	500,000 rad/s <sup>2</sup>
Operating torque:	0.6 Ncm (20 °C)
Start up torque:	0.8 Ncm (20 °C)
Permissible shaft movement, radial, dynamic:	± 0.1 mm
Permissible shaft movement, axial, dynamic:	± 0.2 mm
Life of ball bearings:	3.0 x 10 <sup>9</sup> revolutions
Connection type:	Cable, 8-pin, radial, 1.5 m <sup>2)</sup>

<sup>1)</sup> Self-warming 3.3 K/1,000 1/min, when applying note working temperature range <sup>2)</sup> The universal cable outlet is positioned in such a way, that it is possible to lay the cable in a radial or axial direction without kinking it

### Electrical data

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Electrical interface:	TTL/RS422
Operating voltage range/supply Voltage:	4.5 V ... 5.5 V
Maximum output frequency:	300 kHz
Maximum load current:	30 mA
Operating power consumption (no load):	40 mA <sup>1)</sup>

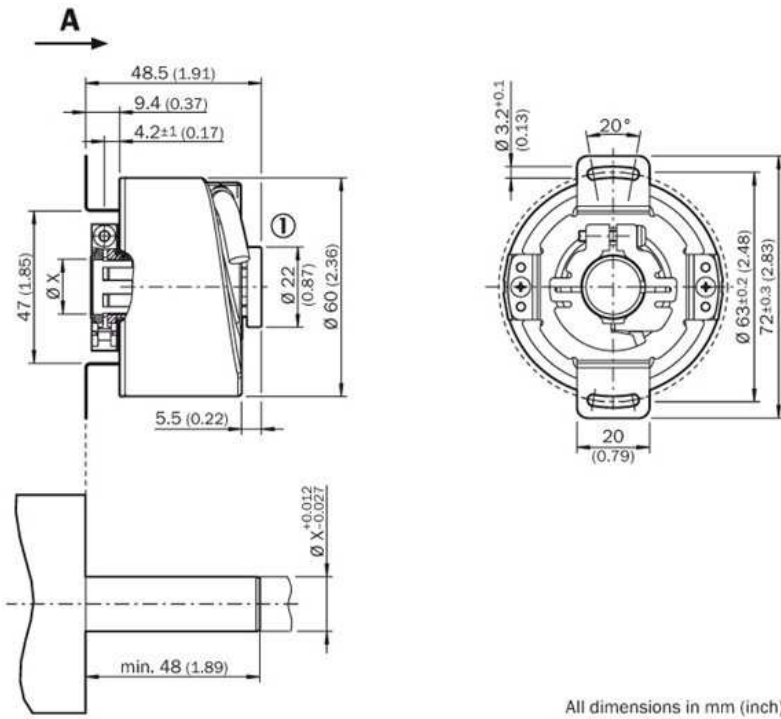
<sup>1)</sup> Without load

### Ambient data

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Working temperature range:	-30 °C ... 100 °C
Storage temperature range:	-40 °C ... 100 °C, without package
Relative humidity/Condensation:	90 %, condensation of the optical scanning not permitted
Resistance to shocks:	70 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration:	30 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
EMC:	(according to EN 61000-6-2 and EN 61000-6-4)
Enclosure rating:	IP 65 (according to IEC 60529), housing side cable outlet, IP 65 (according to IEC 60529), shaft side

# Dimensional drawing



All dimensions in mm (inch)

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