

# Portescap

A Danaher Motion Company



## The Magneto-resistive Encoder - MR2

Quickly and cost-effectively upgrade motor-drive system performance with the MR2 encoder. Put the MR2 encoder to work and watch your application benefit from accurate positioning and speed control. The MR2 encoder offers ease of system upgrade without rigorous qualification. The MR2 also provides an improved value in use and reduced cost of ownership due to its capability to support multiple generations of product upgrades.

### OUTPUT AND PERFORMANCE

- 2-3 channels
- Square wave in quadrature
- Optional reference
- 4 to 512 pulses per revolution
- Supply voltage min / max: 4.5 / 5.5 V
- Supply current nominal / max: 20 / 25 mA
- Output frequency: 1.28 MHz

### KEY FEATURES

- Increased resistance to dust and vibration related jitter
- Accuracy in speed and position feedback
- Mounts on motor rear shaft, facilitating compact encoder integration
- Overall outer diameter of the MR2 remains the same even though motor frame sizes vary from 8mm to 35mm
- Higher resolution of up to 512 lines per revolution
- Excellent resolution for closed loop motion feedback as well as accurate positioning
- Capability to support multiple generations of product upgrades, allowing for more efficient system upgrades and lower cost of ownership
- TTL and CMOS compatible

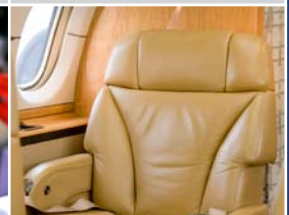
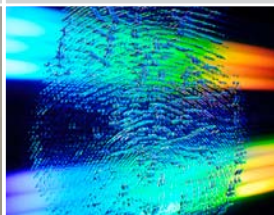
**Medical:** Infusion pumps, lab equipment, fluid management, recording machines

**Security and Access:** Cameras, locks, surveillance monitors

**Industrial Automation:** Printing, machining systems, robotics, glass grinding, engraving systems

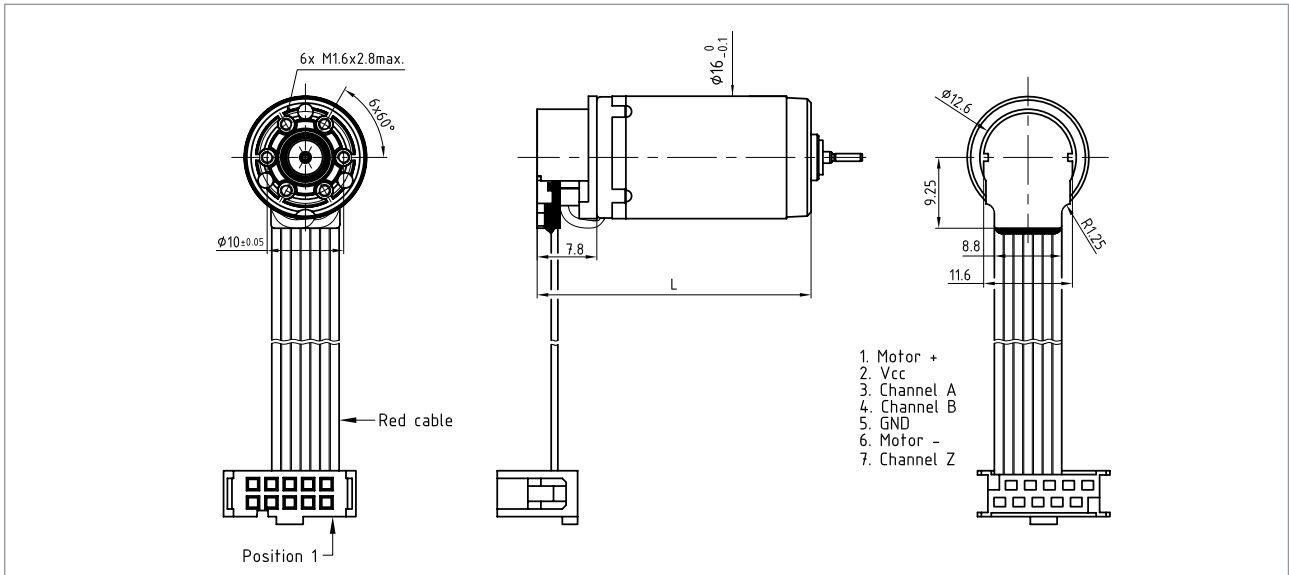
**Electronics Assembly:** Pick and place, component dispensing

**Aerospace & Defense:** Window shades, seat actuation



Motion Solutions That Move Life Forward™

**MR2 Encoder**  
Magneto-resistive Encoder



**Specification**

unit

value

tolerance

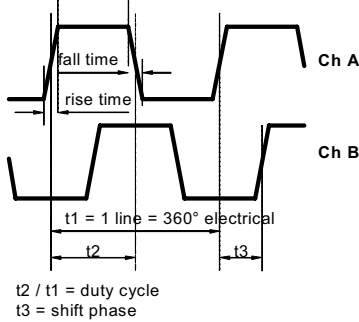
**Encoder specifications (Vcc = 5.0V / 22°C)**

**Output:** 2-3 channels, square wave in quadrature, optional reference, 4 to 512 pulses per revolution, TTL and CMOS compatible.  
All following resolution are available: 512, 500, 400, 256, 250, 200, 160, 128, 100, 80, 64, 50, 40, 32, 20, 16, 8 & 4.

<b>Supply voltage min / max</b>	V	4.5 / 5.5	Min / Max
<b>Supply current nominal / max</b>	mA	20 / 25	Typical / Max
<b>Rise/fall time (CL=50pF)</b>	ns	60 / 60	Rise / Fall Max
<b>Output frequency</b>	MHz	1.28	Max
<b>Electrical phase shift</b>	°	90	± 45
<b>Pulse width Channel A</b>	%	50	± 15
<b>Pulse width Channel B</b>	%	50	± 15
<b>Max. speed @ 512 [ppr]</b>	rpm	30'000	Max
<b>Operating temperature</b>	°	-25 / 85	Min / max

Motor Type	08G / GS	12G	13N	16N	16G	17N/S/V	22N/S/V	23GST	25GST/GT	35NT
<b>Encoder additional length [mm]</b>	5.7	8.7	9.35	7.8	7.8	7.8	6.1	6.9	9.45	7.55

**Output signals:**



**Output connector:**

1. Motor +
2. Vcc
3. Channel A
4. Channel B
5. GND
6. Motor -
7. Channel Z

Connector 10 poles  
type Quickie II or equivalent  
DIN 41651 A (UL E68080)

