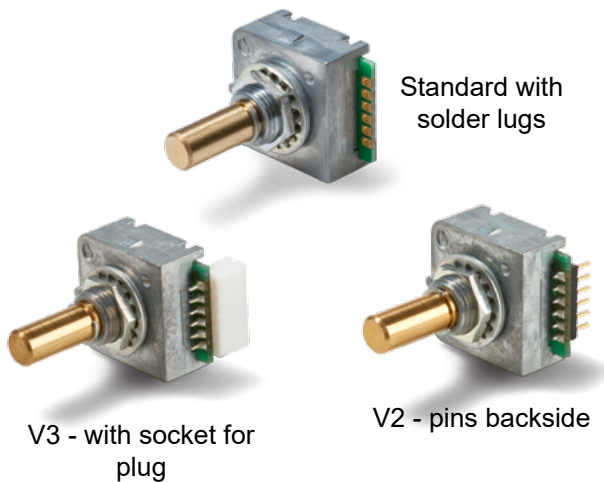


Data Sheet for Panel Encoders

Optoelectronic Panel Encoder

Series MRX25



- Compact design, ideal for small installation spaces
- Resolution 25 impulses per revolution
- Lifetime 1 Mio. shaft revolutions
- IP protection grade from shaft side until IP65
- With or without detent, push button switch
- Various electrical connection variants
- Supply voltage 3.3V or 5V

The MRX25 is especially applicable for control panels with a limited installation space. Based on an optional shaft sealing a high IP protection grade is ensured and makes this panel encoder suitable for applications with increased environmental requirements. The proven design, which is already used in a multitude of applications, guarantees a high reliability and durability.

Electrical Data Sensor	MRXC25 with detent	MRXCT25 with detent and switch
Output signal	A, B	
Number of pulses	25 pulses per rev.	
Output voltage high	≥ (supply voltage - 0.5V)	
Output voltage low	≤ 0,5V	
Limit frequency	200 Hz	
Supply voltage	5 V ±5%, (3.3 V ±5%)	
Power consumption (no load)	< 30 mA	
Insulation voltage 1.)	Housing: 500VDC, 1 minute Switch: 100 VDC, 1 minute	
Insulation resistance 1.)	Housing: 100MOhm @ 500VDC Switch: 100MOhm @ 250VDC	
Output electronics	TTL	
Switch-on delay	≤340ns	

Mechanical and Environmental Data Sensor	MRXC25 with detent	MRXCT25 with detent and switch
Mechanical angle of rotation /stroke 1.)	360° without stop	
Number of detents per revolution	25 (25 pulses per rev.)	
Lifespan 2.)	> 1 Mio. shaft revolutions	
Bearing	Sleeve bearing	
Operational torque / detent torque		
With detent standard torque	0.4 ±0.2 Ncm	
With detent high torque	1.2 ±0.5 Ncm	
Operating temperature range	0 °C up to +60 °C	
Storage temperature range	-20 °C up to +80 °C	
Protection grade shaft (IEC 60529)	IP40	
With shaft sealing option D (only from shaft side)	IP65	

Data Sheet for Panel Encoders

Optoelectronic Panel Encoder

Series MRX25

Mechanical and Environmental Data Sensor	MRXC25 with detent	MRXCT25 with detent and switch
Housing diameter / length	max. 22.5 x 22.5 mm	
Housing depth	min. 9.6 mm / max. 10 mm	
Shaft diameter	6 mm	
Shaft type	Solid shaft	
Connection type	Solder lugs, socket for plug, flat band cable with soldering aid (plug)	
Connection position	Radial	
Sensor mounting	Bushing	
Mass	app. 16 g	
Fastening parts included in delivery	Hex nut (AF11), flat washer and tooth washer, for option D with additional sealing ring	
Fastening torque mounting nut	≤ 80 Ncm	
Material shaft	Brass	
Material housing	Aluminium die casting	
Material disc	Stainless steel	

Electrical Data Push Button Switch

Max. voltage push button switch	12 VDC
Max. current push button switch	50 mA
Resistance push button switch	< 200 mOhm

Mechanical Data and Environmental Data Push Button Switch

Lifespan push button switch	> 1 mio. operations
Travel of push button switch	0.7 ±0.4 mm
Operational force of push button switch	6 ±2 N
Bounce time	10 ms

1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

Data Sheet for Panel Encoders

Optoelectronic Panel Encoder

Series MRX25

Order Code

Description	Selection: standard=black/bold , possible <i>options=grey/italic</i>							
Series	MRX							
Detent: With detent without push button switch With detent with push button switch		C CT						
Pulses per revolution: 25 pulses (detent) per revolution			25					
Supply voltage: 5 V <i>Option 3.3 V</i>				- 3,3				
Output signals: A+B					-			
Shaft sealing: Without shaft sealing <i>Option D shaft sealing</i>						- D		
Operational torque: Torque: 0.4 ±0.2 Ncm <i>Option increased torque: 1.2 ±0.5 Ncm</i>							- V1	
Electrical Connection: Solder lugs <i>Option contact pin's backside</i> <i>Option socket for plug (plug is not part of delivery)</i> <i>Option flatband cable 150 mm with solder aid (plug)</i>								- V2 V3 V4
Shaft length / diameter: Ø6.00 x 20 mm <i>Option Ø6.00 x 20 + Ø4 x 10 mm (only with push button)</i> <i>Option shaft length in mm</i> <i>Option shaft diameter in mm (≤6,00 mm)</i>								- V7 Ax,xx DMx,xx

For higher quantities or on-going demand, additional options are available as described below

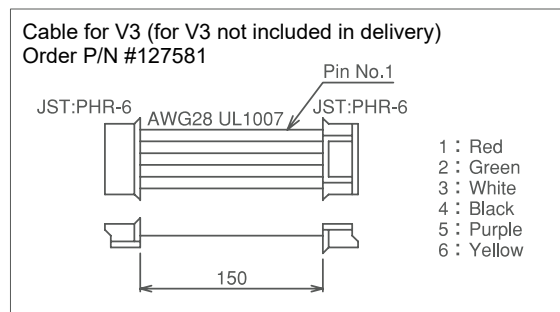
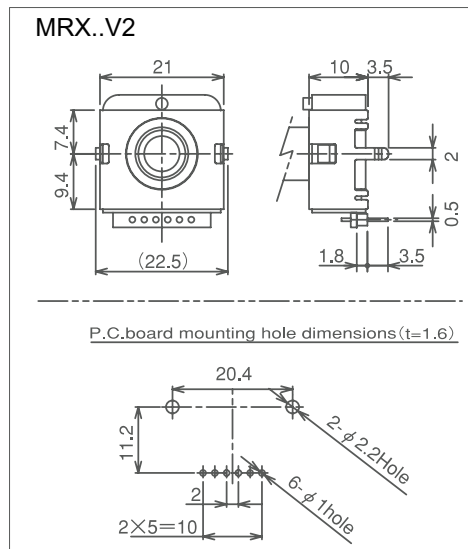
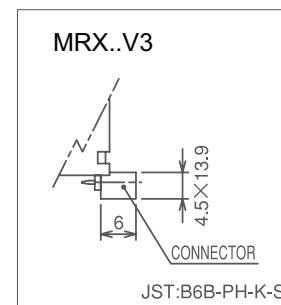
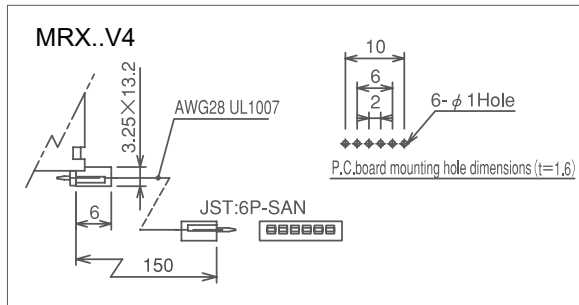
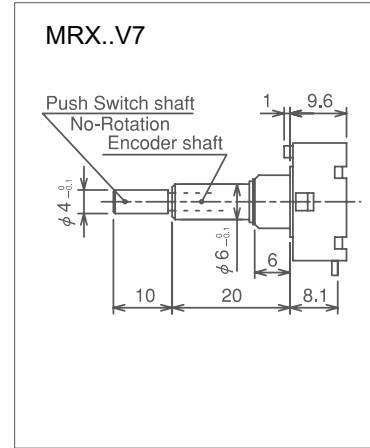
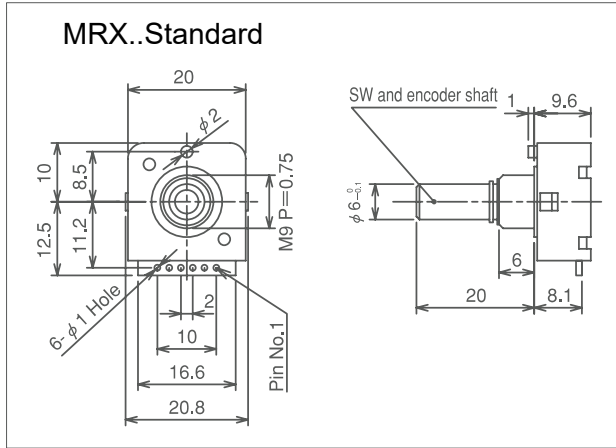
For example:

- Other resolutions
- Other number of detents
- Customized detent torque
- Special shaft design
- Special cable and connection design

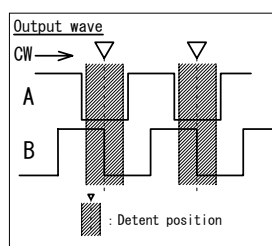
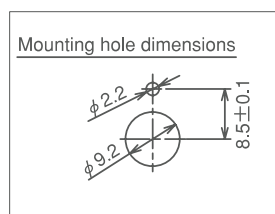
Accessories (not included) - please order separately:

- Mounting set #134433 consisting of rubber washer (for better seal), nut, flat & tooth washer

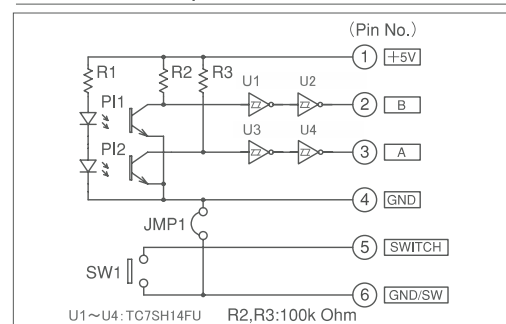
Drawing



Dimensions in mm



Output circuit



Output wave

- CW : The phase A rises when the phase B is low level (0).
CCW : The phase A rises when the phase B is high level (1).
- At the detent position both of phase A and B is low level (0).