



## | MHK5 & MHM5 SERIES

### CANOPEN ABSOLUTE MULTI-TURN ENCODER



#### Features

- Opto-electronic encoder
- CANopen CiA 406 V3.1 interface
- 58mm diameter
- 25 bits binary
- Solid shaft 10 mm or Hollow shaft 15mm

#### Applications

- Motor feedback
- Conveyors
- Factory automation
- Automated warehousing



## SPECIFICATIONS

### Mechanical

<b>Shaft</b>		Solid	Hollow
<b>Shaft diameter</b>		10mm	15mm
<b>Material</b>		<b>Cover:</b> Aluminum <b>Body:</b> Aluminum <b>Shaft:</b> Stainless steel	
<b>Bearings</b>		Balls type: 6000ZZ1	Balls type: 6803ZZ
<b>Maximum Load</b>	<b>Axial</b>	4 daN	
	<b>Radial</b>	11 daN	
<b>Shaft inertia</b>		30 g.cm <sup>2</sup>	
<b>Torque</b>		0.003 N.m	
<b>Permissible Max. Speed</b>		6000 rpm	
<b>Continuous Max. Speed</b>		6000 rpm	
<b>Encoder Weight (Approx.)</b>		0.56 kg	0.57 kg
<b>MTTF</b>		13.5 years @ 40°C	

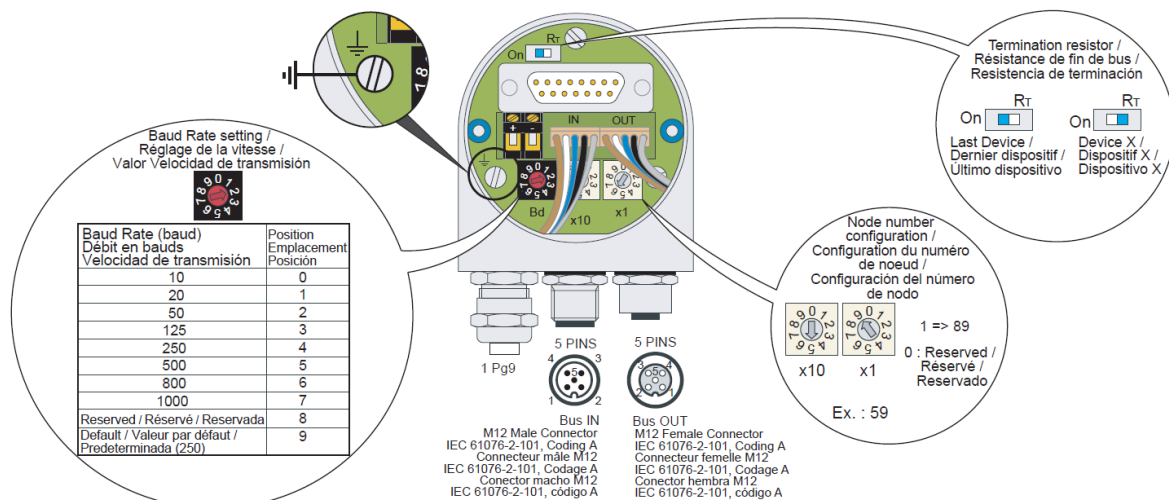
## Electrical

Output Signals CANopen	Operating Voltage +V	Supply Current (no loads)	Voltage peaks Protection	Reverse Polarity Tolerant	Short-circuit Protection	Frequency Capability	Operating Temperature Range
CANopen	10V to 30V	230mA (10V) 100mA (24V)	yes	yes	yes	800kHz	-40...85 °C

## Environmental

<b>Shocks (EN 60068-2-27)</b>	100 gn for 6 ms
<b>Vibrations (EN 60068-2-6)</b>	10 gn (f= 10...2000 Hz)
<b>Resistance to electrostatic discharge (IEC 61000-4-2)</b>	2 kV contact discharge (level 2) 4 kV air discharge (level 2)
<b>Resistance to electromagnetic fields (IEC 61000-4-3)</b>	10 V/m (level 3)
<b>Resistance to fast transients (IEC 61000-4-4)</b>	1 kV signal ports (level 3) 2 kV power ports (level 3)
<b>Operating Temperature</b>	-40 ...85°C
<b>Storage Temperature</b>	-40 ...85°C
<b>Protection (EN 60529)</b>	IP64
<b>Humidity</b>	98% without condensation

## STANDARD CONNECTIONS



Pin	1	2	3	4	5
<b>Function</b>	CAN_SHLD	(CAN_V+)	CAN_GND	CAN_H	CAN_L

Terminal	+	-
<b>Function</b>	24V	0V

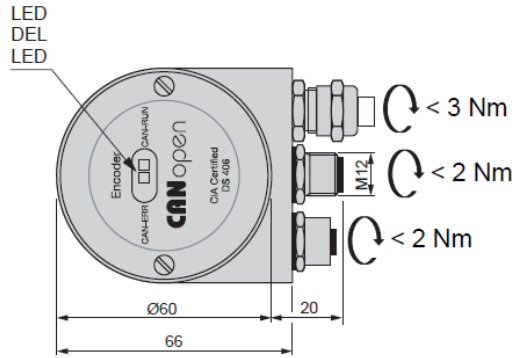
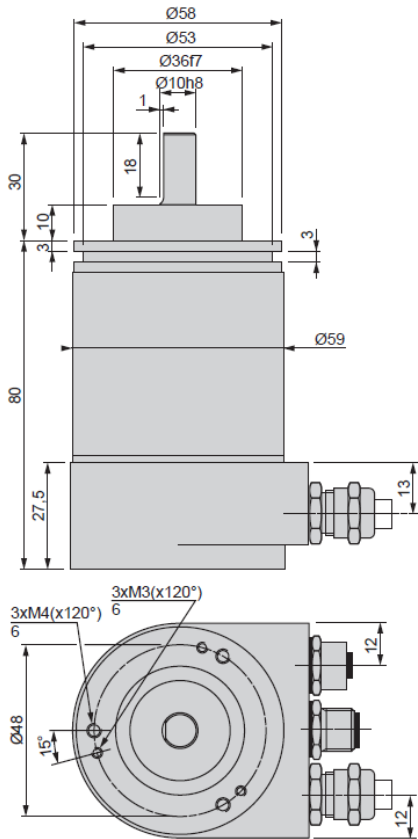
<b>Transmission Rate</b>	20 kbit/s
	1000 kbit/s
	800 kbit/s
	500 kbit/s
	250 kbit/s
	125 kbit/s
	50 kbit/s
10 kbit/s	

# RESOLUTION

<b>Single-turn resolution</b>	13 bits: 8192 points
<b>Multi-turn resolution</b>	12 bits: 4096 turns

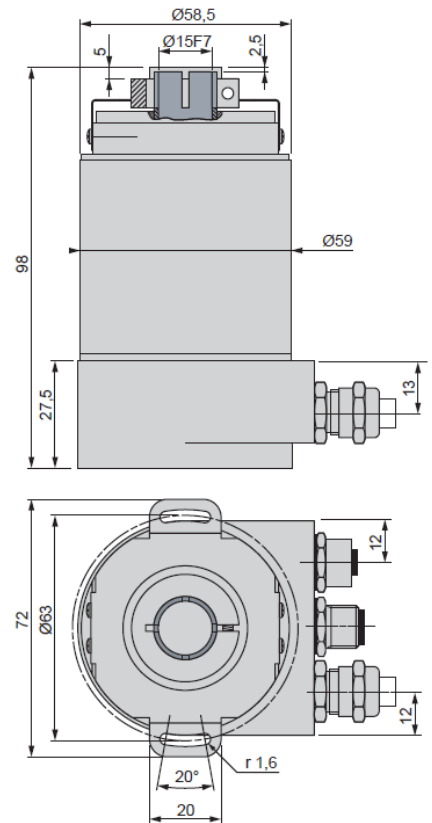
# DIMENSIONS

MHM510-CANOS005



All dimensions in mm  
 Toutes les dimensions en mm  
 Todas las dimensiones en milímetros  
 1 mm = 0.0397 inch

MHK515-CANOS003



# CONNECTION DIMENSIONS

- 1 Standard M12 Male 5 pins IEC 61076-2-101, Coding A connector
- 1 Standard M12 Female 5 pins IEC 61076-2-101, Coding A connector
- 1 Pg9 cable gland for power supply

## LED STATUS

N°	LED DEL LED	Type of flashing Type de clignotement Tipo de parpadeo	Status / Possible cause Etat / Cause possible Estado / Causa posible
1	CAN ERR (red / rouge / rojo)	Off Eteinte Inactivo	No error. Pas d'erreur. Sin error.
2		1 flash 1 flash 1 parpadeo	The internal error counter has reached or exceeded the maximum level. Le niveau du compteur d'erreur interne a atteint ou dépassé le niveau maximum. El contador de errores internos ha alcanzado o ha superado el nivel máximo.
3		2 flashes 2 flash 2 parpadeos	Detection of a guard event or a heartbeat event. Détection d'un évènement de type "guard" ou "heartbeat". Detección de un evento de "guard" o de "heartbeat".
4		3 flashes 3 flash 3 parpadeos	Synchronization error: message not received within the defined period. Erreur de synchronisation : message non reçu dans la période définie. Error de sincronización: mensaje no recibido durante el período definido.
5		Flashing Clignotement Parpadeo	Error in the bus address or speed. Erreur dans l'adresse ou dans la vitesse du bus. Error en la dirección o la velocidad del bus.
6		On Allumée Conectado	Bus off. Bus off. Bus desactivado
7	CAN RUN (green / verte / verde)	1 flash 1 flash 1 parpadeo	Module in "Stopped" mode. Module en mode "Stopped". Módulo en modalidad "Stopped".
8		Flashing Clignotement parpadeo	Module in "Pre-operational" mode. Module en mode "Pre-operational". Módulo en modalidad "Pre-operational".
9		On Allumée Conectado	Module in operational mode. Module en mode opérationnel. Módulo en modalidad operativa.

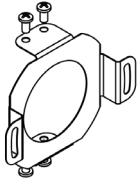
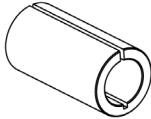
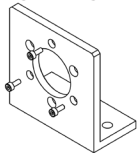
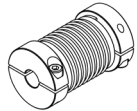
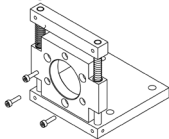

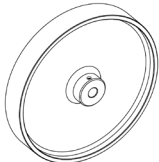
When both LEDs are off, the encoder is not supplied with power.  
Lorsque les deux DEL sont éteintes, le codeur n'est pas alimenté.  
Cuando los indicadores LED están apagados, el codificador no suministra alimentación.

## ORDERING OPTIONS

Example: MHM510-CANOS0005

<b>Series</b>	<b>MHM5</b>	<b>10</b>	-	<b>CANOS000x</b>
<b>MHM5:</b> Hollow shaft <b>MHM5:</b> Solid shaft				
<b>Shaft Size</b>				
<b>10:</b> 10mm <b>15:</b> 15mm				

Two references available:  
MHM510-CANOS0005 (replacement for discontinued Schneider Electric XCC3510PS84CBN)  
MHK515-CANOS0003 (replacement for discontinued Schneider Electric XCC3515CS84CBN)

Description	Part Number
<p><b>Flexmount Kit</b></p> 	<p>Normally is part of the model number construction. For replacement part, use the part number below. M9445/017 comes with all hardware for installation on the encoder</p>
<p><b>Brass Reduction Sleeve</b></p> 	<p>9432/06 = 6mm ID 9432/08 = 8 mm ID 9432/9.52 = 9.52 mm (3/8") ID 9432/10 = 10 mm ID 9432/12 = 12 mm ID 9432/12.7 = 12.7 mm (1/2") ID 9432/14 = 14 mm ID</p>
<p><b>Mounting Bracket Right Angle</b></p> 	<p>M9202 Note: for mounting aluminum version</p>
<p><b>Bellows Type Coupling</b></p> 	<p>9403/6-6 = 6mm x 6mm 9403/6-10 = 6mm x 10mm 9403/10-9 = 10mm x 10mm</p>
<p><b>Mounting Bracket Spring Loaded</b> For Use with Measuring Wheel</p> 	<p>M9212</p>
<p><b>Measuring Wheel</b> 200mm Circumference</p> 	<p>9108/10 = Smooth, Polyurethane 9109/10 = Studded, Rubber 9110/10 = Knurled, Aluminum Uses 10mm shaft diameter</p>
<p><b>Measuring Wheel</b> 500mm Circumference</p> 	<p>9101/10 = Smooth, Polyurethane 9102/10 = Studded, Rubber 9103/10 = Knurled, Aluminum Uses 10mm shaft diameter</p>

## AGENCY APPROVALS & CERTIFICATIONS



## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions can result in death or serious injury.**

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