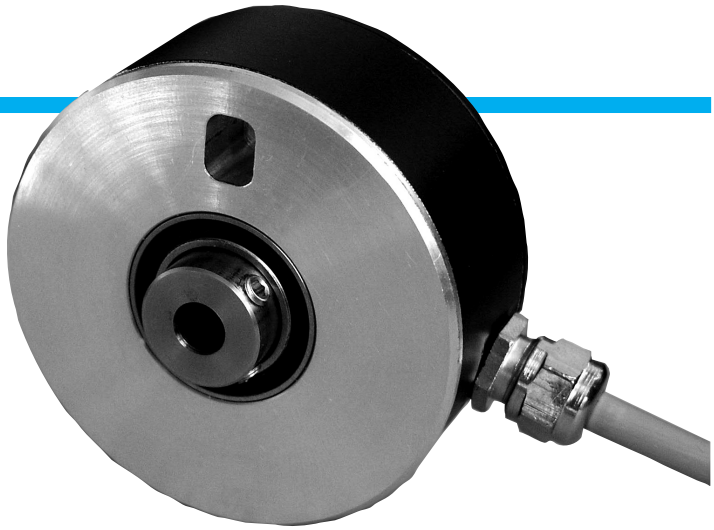
Magnetic incremental encoders MIRC360 and 365

MIRC36x – blind hollow shaft 6 mm



The magnetic incremental rotary encoders MIRC360 and MIRC365 working on magnetic Hall Effect principle. The encoder converts rotary motion to electrical incremental signals. Mechanically is designed as blind hollow shaft and is mounted on the shaft cooperating devices. A typical use is in conjunction with digital control system or drivers for control of the electric motors.
Note: Endoder MIRC36x can be delivered as absolute encoder.

Type identification

MIRC3 6 X – X / XXXX X

OUTLET
PB – Cable 0,5 m radial
(longer cable on request)

NUMBER OF IMPULSES (PERIODS) PER ROTATION
from 1 to 128 after one pulse,
further 256, 512, 1024
with one zero impulse per rotation.

DIAMETER OF SHAFTS
6 – shaft internal diameter 6 mm
5 – shaft internal diameter 5 mm
8 – shaft internal diameter 8 mm
(other diameter on request)

OUTLETS IDENTIFICATION

Supply voltage	Outlet
0 – +10 ÷ +30 V	HTL line driver
5 – + 5 V	line driver

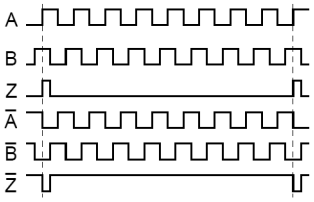
MECHANICAL SPECIFICATION
6 – blind hollow shaft 6 mm

TYPE OF ENCODER
3 – magnetic incremental encoder type MIRC36x

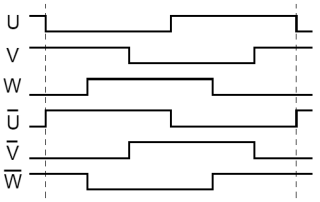
Mechanical data and working conditions

Rotational speed max.		10000 min.$^{-1}$
Angular acceleration max.		40000 rad.s^{-2}
Moment of inertia of mechanical parts max.		10 g.cm^2 ± 10 %
Vibration according to FCČSN345791		10g$_n$ (10 to 2000 Hz)
Shock max.		50g$_n$ (100 ms)
Shaft loads MIRC36x	– axial max.	20 N
	– radial max.	40 N
Working temperature	– standard	– 25˚ to + 70˚ C
	– extended M	– 40˚ to + 70˚ C
	– extended J	– 25˚ to + 125˚ C
Humidity relative / absolute		max. 95 % / max. 40 g.m^{-3}
Atmosphere (without aggressive substances)		73,3 to 126,6 kPa
Type of protection		IP65
Weight MIRC36x		ca. 0,15 kg
Length cable max.		50 m

Output signals MIRC360 / MIRC365



ABZ differential incremental signals



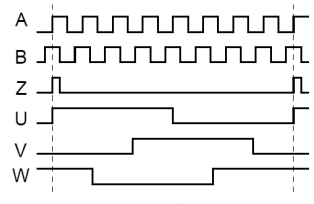
UVW differential commutation signals

Number of incremental impulses (periods) per rotation: from 1 to 128 after one pulse, further 256, 512, 1024 with one zero impulse per rotation. Resolution in positions = Number impulses per rotation (lines) x 4.

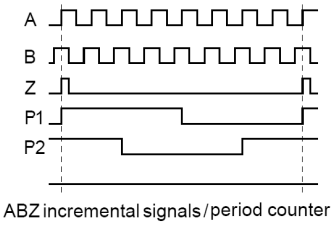
Technical data

ELECTRICAL DATE / TYPE	MIRC360	MIRC365
Impulses (periods) per rotation	1 to 1024	
Resolution (positions per revolution) = impulses x 4	Up to 4096	
Supply voltage max. U_N (V)	from +10 to +30	+ 5 ± 5%
Supply current max. I_N (mA)	60@30V	50
Output frequency max. F_O (kHz)	200	
Output max. I_O (mA)	± 25	± 20
Output	HTL line driver	line driver (RS 422)

MIRC360 / MIRC365
only and into resolution 1024 impulses (without 200, 250, 400 and 500 impulses)



ABZ incremental / UVW commutation



ABZ incremental signals / period counter

LARM a.s., Triumf 413, 384 11 Netolice, ČR Tel.:+420 388 386 211, Fax:+420 388 386 212, e-mail: sales@larm.cz

Description of connection elements MIRC360 and 365

Colors of connection cable	Significance			
	Incremental	Commutation	Incr./commu.t.	Incr./counter
Grey	B non	V non	V	P2
Pink	Sensor + 10 to + 30 V for **MIRC360** Sensor + 5 for **MIRC365**			
Blue	Z	W	Z	Z
Violet	Z non	W non	W	NC
Yellow	A	U	A	A
White	A non	U non	U	P1
–	NC			
Green	B	V	B	B
Shield	Shield			
Black	GND			
Brown	Sensor 0 V			
Red	U_N + 10 V to + 30 V for **MIRC360** V_{cc} + 5 V for **MIRC365**			

Assembly

The encoders MIRC360/ MIRC365 are mounted on a shaft of device by two screws in the encoder shaft. Rotational moment is captured by a pin dia. 5 mm placed in flange of device on pitch 20 mm. This pin shall be pushed into the groove in the encoder and leant against the groove side. The clearance is limited by a spring-loaded ball.

Whereas the electrostatic sensitive components are used, the encoder must be connected without power supply and to follow the work rules for electrostatic sensitive devices.

When temperature is less then –5°C cable must be fixed.

How to order?

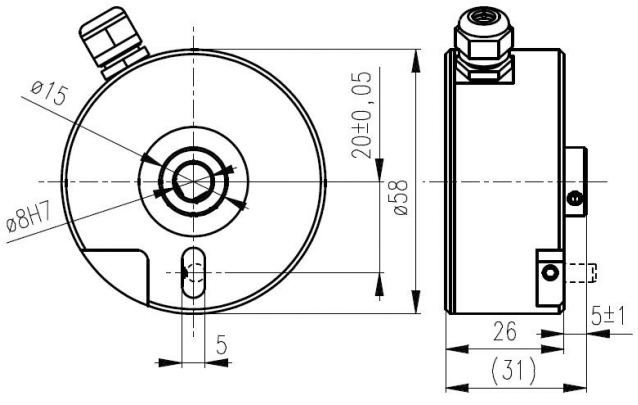
Please indicate encoder type, number of impulses per rotation, outlet, number of pieces, delivery term and other non-standard features.

Example

15 pcs MIRC365-6/256PB. Delivery term – two weeks.

MIRC360 a 365

Dimension drawing



Aplication example