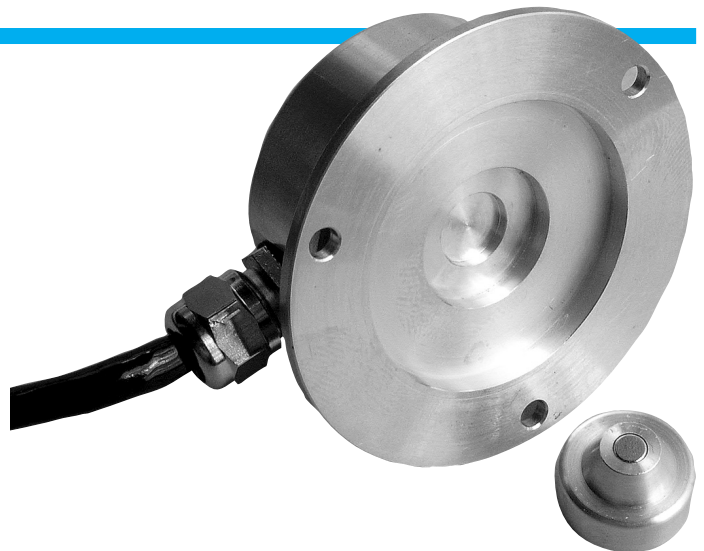


# Magnetic absolute encoders MARC645

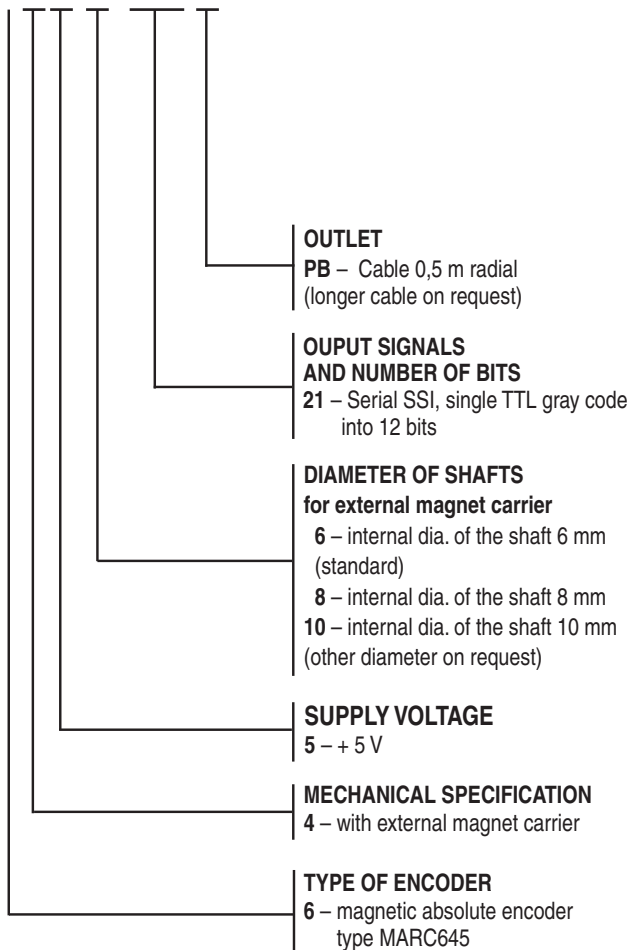
MARC645 – without a shaft with external magnet-carrier

The magnetic single turn absolute rotary encoders type MARC645 working on magnetic Hall Effect principle. The encoder converts rotary motion to electrical signals. Mechanically is designed without a shaft with external magnet-carrier which is mounted on the shaft cooperating devices. Electrical signals provide information of bilateral position of two mechanical parts, angle turn or rotary motion. A typical use is in conjunction with digital control system or drivers for control of the electric motors.



## Type identification

MARC6 4 5 - X / XXXX XX



## Technical data

ELECTRICAL DATE / TYPE	MARC645
Positions per rotation	into 12 bits (into 4096 pos.)
Supply voltage max. $U_N$ (V)	+ 5 ± 5%
Supply current max. $I_N$ (mA)	50

## Mechanical data and working conditions

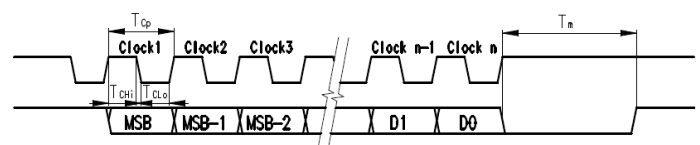
Rotational speed max.	10000 min. <sup>-1</sup>
Vibration according to FCČSN345791	10g <sub>n</sub> (10 to 2000 Hz)
Shock max.	50g <sub>n</sub> (100 ms)
Diameter of shafts for external magnet carrier – standard – option	6mm 8 mm or 10 mm
Working temperature – standard	- 25° to + 80° C
Humidity relative / absolute	max. 95 % / max. 40g.m <sup>-3</sup>
Atmosphere (without aggressive substances)	73,3 to 126,6 kPa
Type of protection	IP65
Weight ca. MARC645	0,15 kg
Length cable max.	50 m

## Output signals MARC645

21 – Serial SSI, single TTL CLOCK/DATA signals, gray code into 12 bits (4096 pos.).

## SSI communication

Parameter	Symbol	Min	Max	Unit
Clock period	$T_{cp}$	250	2x $T_m$	μs
Clock High	$T_{CHi}$	25	$T_m$	μs
Clock Low	$T_{CLo}$	25	$T_m$	μs
Monoflop time	$T_m$	16	20,5	μs



## Description of connection elements MARC645

Colors of connection cable	Significance MARC645
Grey	SSI – CLOCK-
Pink	SSI – DATA-
Blue	INC – Signal Z <sup>(1)</sup>
Violet	SSI – DATA+
Yellow	INC – Signal A <sup>(1)</sup>
White	SSI – CLOCK+
–	NC
Green	INC – Signal B <sup>(1)</sup>
Shield	Shield
Black	GND
Brown	GND
Red	V <sub>cc</sub> + 5V

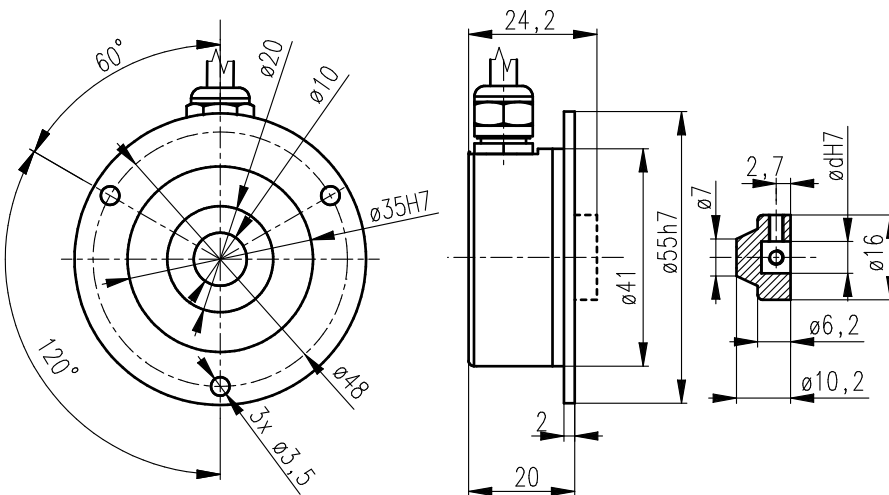
(1) Only on request

### Assembly

The encoders MARC645 are fixed to cooperative equipment by three screws M3 on the pitch circle diameter 48 mm. First the magnet-carrier is mounted on the shaft so that dimension between top of magnet-carrier and equipment's flange must be  $6,65 \pm 0,05$  mm. For this operation it is possible to use the assembly tool 62451631 which is possible to order as accessories. Centering of the encoder is by inner diameter 35H7 or outside diameter 55h7.

**Note:** The encoder is calibrated with its magnet-carrier and is paired with him. If another magnet or magnet-carrier will be used, the sensor accuracy will worsen.

## Dimensioned drawing MARC645



### How to order?

Please indicate encoder type, number of impulses per rotation, outlet, number of pieces, delivery term and other non-standard features. Connecting cable and homokinetic diaphragm couplings can be ordered as well [see Accessories catalogue list].

### Example

35 pcs MARC645-6/21PB and 7 pcs assembly tools. Delivery term – two weeks.

