

Operational Description for Type TC02 Model B03D transmitting unit

1 Identification of the unit

Type	TC02
Model	B03D
Configuration	P01
Equipment	remote control transmitting unit
Transmitting radio module	E16STXUS1
Used frequency band	902 - 928 MHz
Trade name	MK10
FCC Identifier	OQA-TC02B03D
Manufacturer	AUTEC srl Via Pomaroli, 65 I-36030 CALDOGNO (VI)

where:

TYPE: identifies type of unit (transmitting, receiving or transceiving), type of casing and used electronic modules.

MODEL: differentiates power supply, type of actuators and radio frequency band

CONFIGURATION: refers to the specific set of components and accessories of the unit

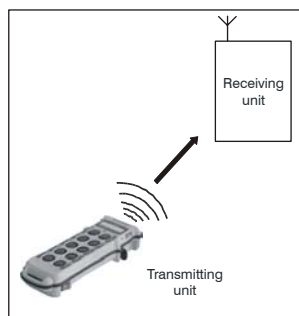
TRADE NAME: commercial reference

2 Operational description

Industrial radio remote controls are used to command machines from a distance.

Each industrial radio remote control is made up of a portable transmitting unit, from which the user can remotely control the machine, and a receiving unit installed on board the machine itself.

The MK10 transmitting unit is a handheld unit.



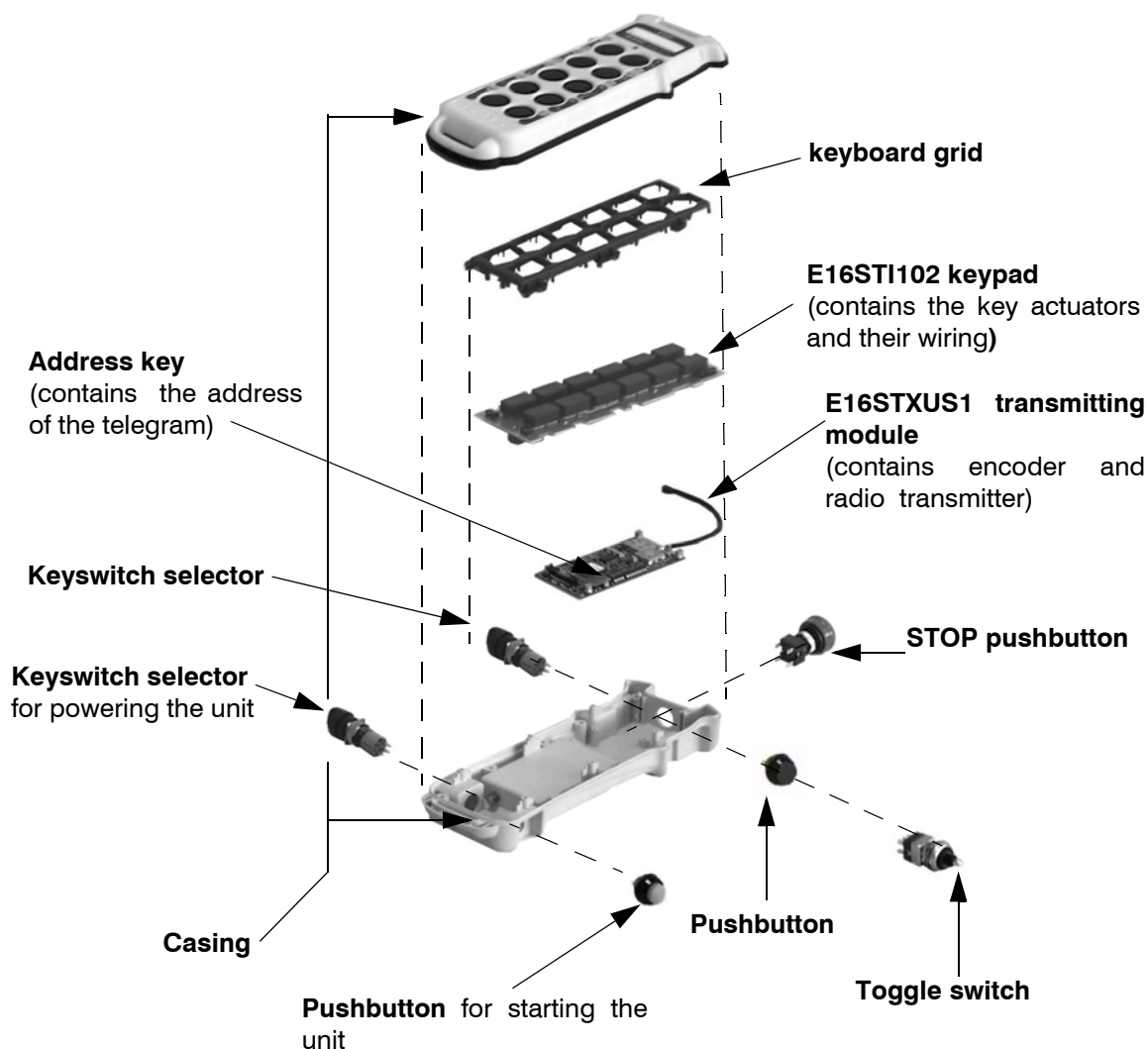
The MK10 contains E16STXUS1. It is the radio transmitting module.

A logic section collects commands coming from various actuators (switches and or pushbuttons in the E16STI102 keyboard) and combines them with an address code stored in an EEPROM memory ("address Key"); a serial data telegram at 2200-2600 baud is so obtained. After a Gaussian spectrum shaping filter, the telegram is frequency modulated on a carrier generated by a PLL synthesizer and then transmitted over a 25kHz channel in the 902-828 MHz band; 32 different frequencies may be chosen, so as to allow coexistence of multiple units on the same location (for details see relative block diagrams).

Transmission is continuous (100% duty cycle) even with no command activated, since the receiver is expected to monitor continuously the presence of a valid radio signal.

A receiving unit will decode only messages coming from a transmitter with the same address code. This excludes the possibility of an interference activating any function unwantedly.

3 Exploded view



4 Technical data E16STXUS1 trasmitting radio module

Used frequency band	902 - 928 MHz
Type of modulation	2200 - 2600 Baud GFSK
Channel spacing	25 kHz
Designation of emission (ITU code)	16K5F1D
Strenght field	see relative Test Report
Duty cycle	up to 100 % (continuous duty), depends on user's need
Duplex direction	simplex
Antenna type	dedicated
Data telegram	132 bit
Hamming distance	> 8
Probability of non-recognition of error	<10 exp-11

5 Power supply: MBM06MH battery pack



number of NiMH elements	6
nominal voltage of 1 element (V)	1,2
total nominal voltage of the battery (V)	7,2
battery voltage after discharge (V)	6
voltage of the charged battery (V)	8,4
capacity (mAh)	750
number of cycles in average life	400
autonomy (hours)	up to 15
recharge time	(approx) 3

MBM06MH batteries must only be recharged using MBC ___ battery chargers.

Use the battery until it is totally discharged (the led of the transmitting unit flashes quickly when the battery used is discharged).

