

Operational Description for Type TD02 Model C05D transmitting unit

1 Identification of the unit

Type	TD02
Model	C05D
Configuration	P03
Equipment	remote control transmitting unit
Trasmitting radio module	E16STXUS1
Used frequency band	902 - 928 MHz
Trade name	LK
FCC Identifier	OQA-TD02C05DP10
Manufacturer	AUTECH 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: refersto the specific set of components and accessories of the unit

TRADE NAME: commercial reference

2 Difference between the units

There are two Configurations which differ each other for the number of key:

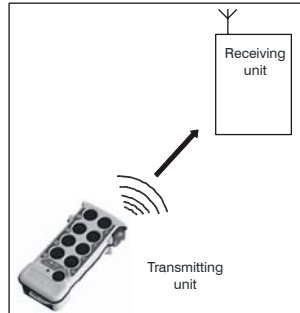
- Configuration P03 has six keys
- Configuration P04 has four keys

3 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 LK transmitting unit is a handheld unit.



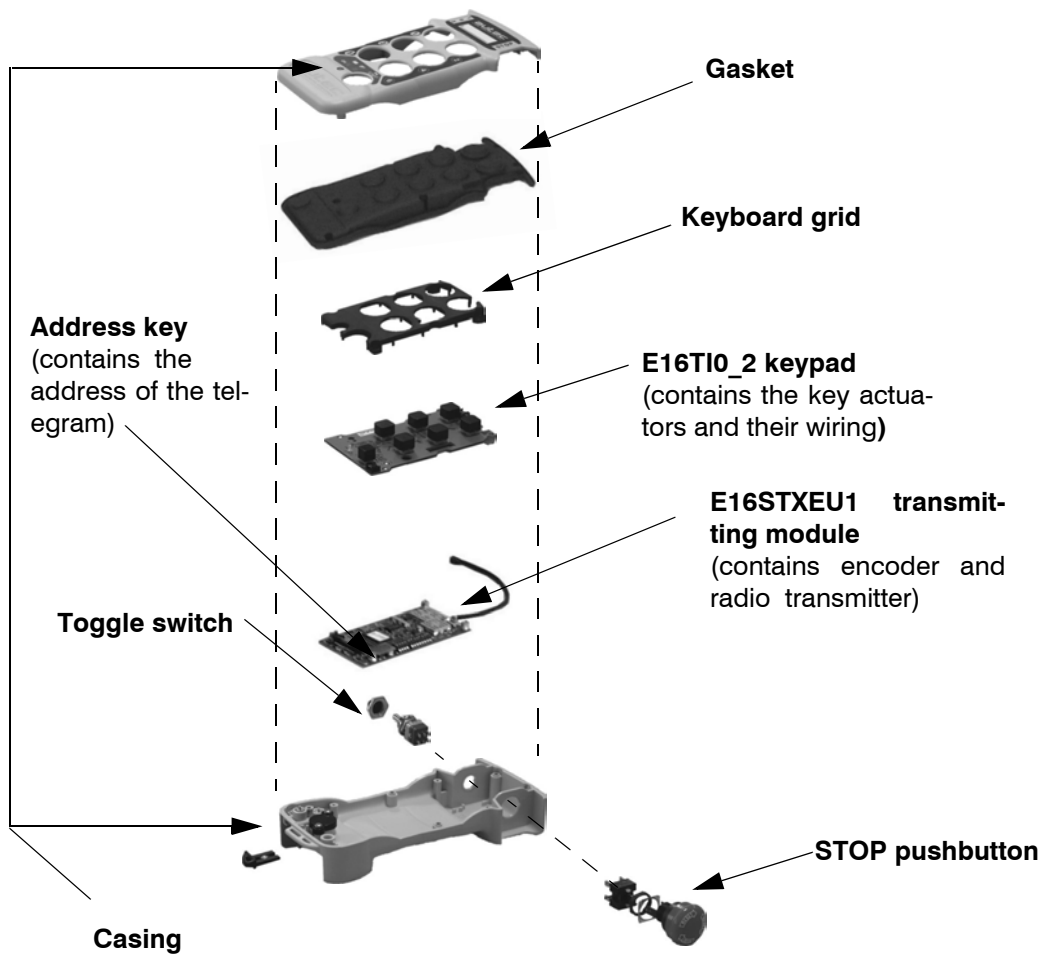
The LK contains E16STXUS1. It is the radio transmitting module.

A logic section collects commands coming from various actuators (switches and or pushbuttons in the E16STI062 (or E16STI042) 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.

4 Exploded view



5 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	integrated $\lambda/4$
Data telegram	132 bit
Hamming distance	> 8
Probability of non-recognition of error	<10 exp-11

6 Power supply: LBM02MH battery pack



number of NiMH elements	2
nominal voltage of 1 element (V)	1,2
total nominal voltage of the battery (V)	2,4
battery voltage after discharge (V)	2,1
voltage of the charged battery (V)	2,7 ÷ 2,8
capacity (Ah)	1,6
number of cycles in average life	500
autonomy (hours)	up to 8
recharge time	up to 4

LBM02MH batteries must be only recharged by one of the LBC__A battery chargers.

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