

E16STXUS1 operational description

1 Description

E16STXUS1 is a radio transmitting module.

A logic section collects commands coming from the various actuators (switches, pushbuttons, joysticks ...) which are present in the unit where the module is used.

E16STXUS1 module combines these command 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*).

The module has an integrated antenna. However, it has also a coaxial connector which is used for factory testing only.

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.

2 Technical data E16STXUS1 transmitting radio module

Used frequency band	902.15 - 927.725 MHz
Power supply	2.4 Vdc (<120 mA) or 7.2 Vdc (<35 mA) by Ni-MH Autec battery
Type of modulation	2200 - 2600 Baud GFSK
Channel spacing	25 kHz
Designation of emission (ITU code)	12K9F1D
Strength field	see relative Test Report
Duty cycle	up to 100 % (continuous duty), depends on user's need
Duplex direction	simplex
Antenna type	integrated $\lambda/4$
Antenna gain	<2.15 dB
Data telegram	132 bit
Hamming distance	> 8
Probability of non-recognition of error	<10 exp-11

