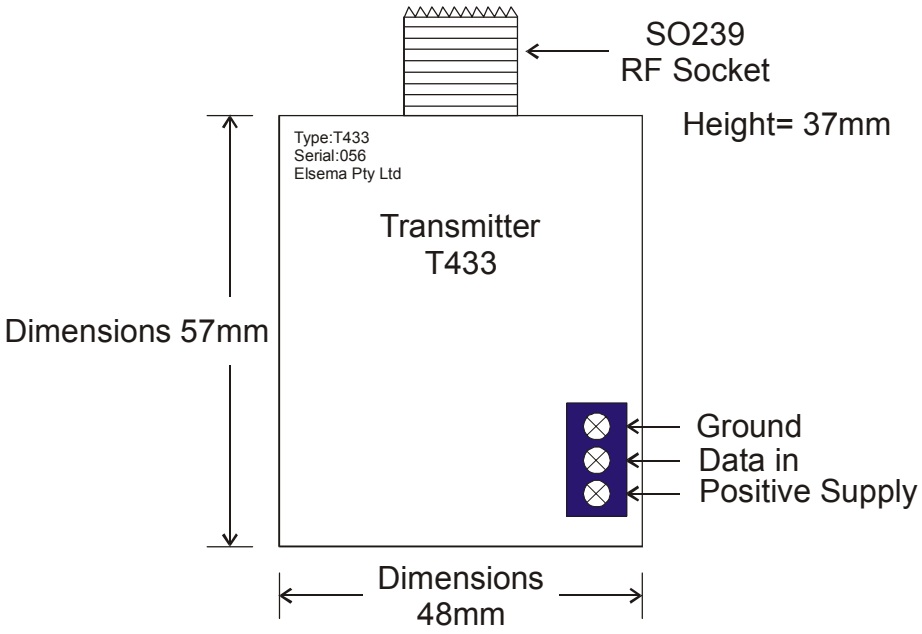
T433E
433.920 MHz ASK RADIO DATA TRANSMITTER

The T433E is a radio data transmitter to transmit ASK digital data. Baud rates of 300 to 4800 bps can be transmitted to an operating range of 1 Kilometres in line of sight. The low cost, small size, wide operating voltage combined with low current consumption makes it ideal for:

- Telecommand Systems
- Security Systems
- Alarms
- Radio data communications
- Commercial / industrial telemetry

The transmitter is available with a plastic case or as a Printed Circuit Board assembly. The Printed Circuit Board assembly allows OEM manufactures to integrate the transmitter with their own products.

T433 Diagram, Transmitter PCB Assembly, No Case



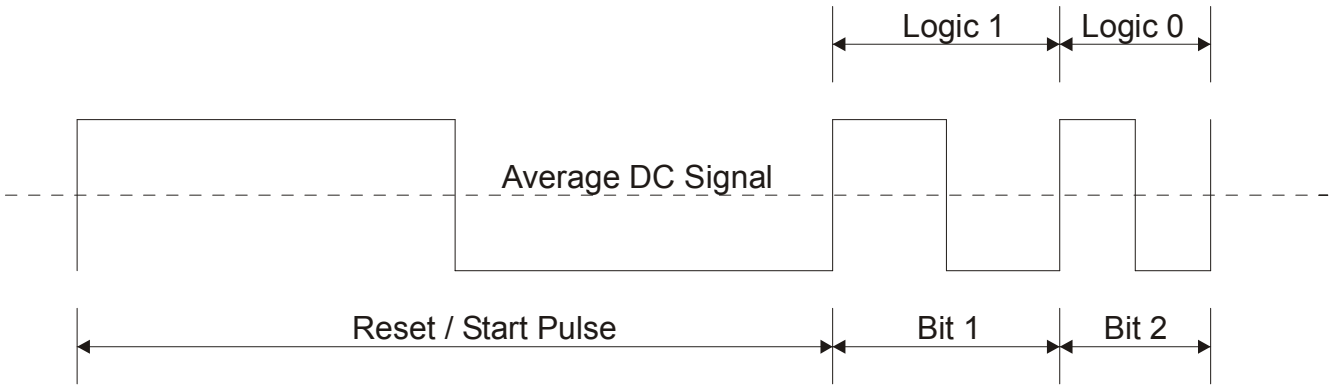
TECHNICAL DATA ON T433E

POWER SOURCE :	6.0 to 28 VDC
CURRENT CONSUMPTION :	25mA at 12VDC supply (only when transmitting). 3.3mA at Standby
OPERATING FREQUENCY :	433.920MHz
CRYSTAL USED :	48.213 MHz, 3rd Overtone, 20pf, 30ppm at 0 to 50°C
OPERATING TEMPERATURE RANGE :	-5 to +50°C
R.F. POWER OUTPUT :	2mW +-3db into 50 ohms load
ASK DATA INPUT :	0 VDC is transmitting 5 VDC is not transmitting
FREQUENCY RESPONSE :	40 Hz to 2400 Hz
BAUD RATE :	150 to 4800bps.
ANTENNA :	50 ohms, 433.920 MHz Antenna (ANT433S) or piece of approximately 70 centimetres of wire.
TYPE OF EMISSION :	Amplitude Shift Keying (ASK).
SPURIOUS TRANSMISSION :	To meet IETS 300 220 : 1993
DIMENSION :	115 X 80 X 58 mm excluding Antenna and mounting bracket.
WEIGHT :	200 grams excluding Antenna and mounting bracket.
MOUNTING BRACKET :	Brass bracket suitable to clamp onto antenna pole.
USABLE RECEIVER :	R433E data receiver.
USEABLE OPERATING RANGE :	up to 1 Kilometres line of sight.

T433E DATA FORMAT

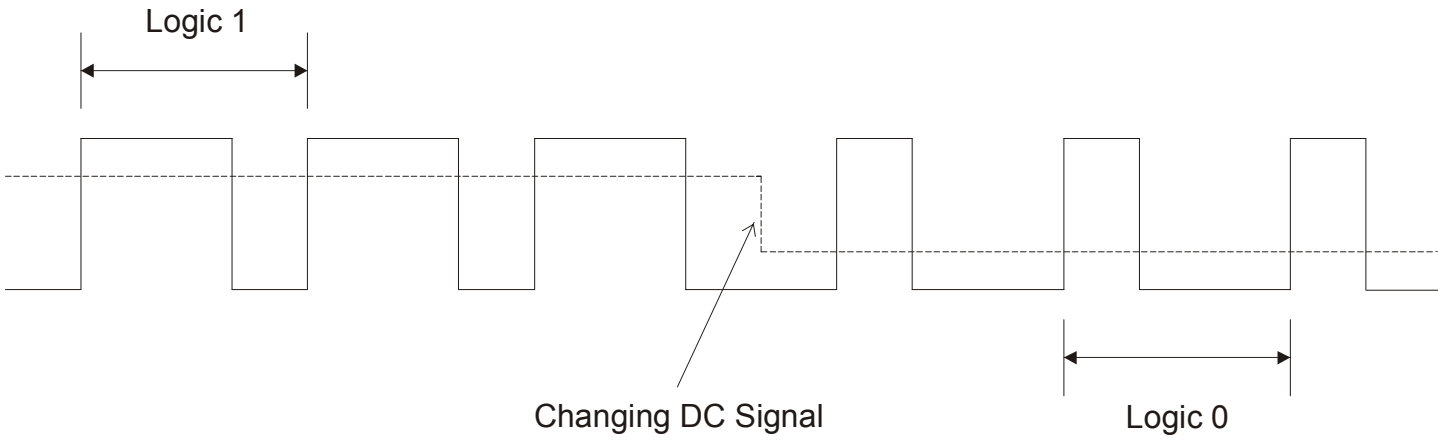
It is important to input the correct data format otherwise the receiver will have a lower sensitivity which will result in a reduced transmission range.

The R433E receiver data slicer is set for 50/50-duty cycle, therefore the "data in" should have a 50/50-duty cycle. The 50/50-duty cycle data can be pulse-width modulated to transmit resets, 0's or 1's. See diagram below :



A 50/50-duty cycle will have an average DC signal resulting in a constant reference for the data slicer. Users should use pulse-width modulation to transmit data with logic 1's or 0's.

If a different duty cycle is used, for example 66/33 (Manchester format) the data slicer in the receiver will try to adjust itself to the average DC signal. Since this average DC signal is changing with different data bits this will result in a constantly changing reference for the data slicer, resulting in lower sensitivity. See diagram below :



Only 50/50 duty cycle data is suitable for the T433E transmitter and R433E receiver.