

FEATURES

- Operates on international licensed and licence free radio telemetry bands.
- Range:

TX7120 – 179	3km in free space, 0.2 - 0.5km in buildings
TX7120 – 433	2km in free space, 0.2 - 0.5km in buildings
TX7120 – 458	20km in free space, 1 – 3km in buildings
TX7120 – 868	10km in free space, 0.7 – 2km in buildings
TX7120 – GSM	World Wide GSM Mobile Phone Network
TX7120 – LLM	Leased Telephone Line
- Type approved to ETSI 300-220, ETSI 300-113, MPT1328, MPT1329, MPT1340, MPT1344
- 4 Digital Inputs Activated Low
- 1 Pulse Counter (Factory set Option)
- 1 Analogue Input 0-20mA, 0-10V, 0-500mV, J, K Cold Compensated Thermocouple (factory set option)
- LCD Display for Scaled Analogue Input, Pulse Counter Total, Digital Inputs and Program Menu.
- IP65 Polycarbonate Enclosure
- Powered from 8-30Vdc, 110Vac, 240Vac
- Size 160mm by 80mm by 55mm

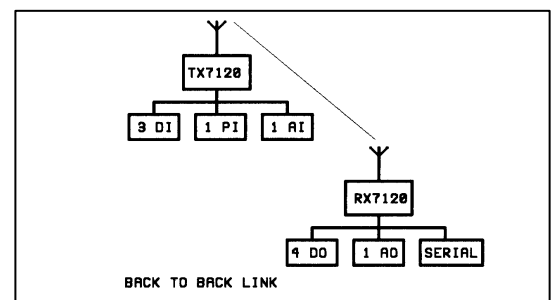
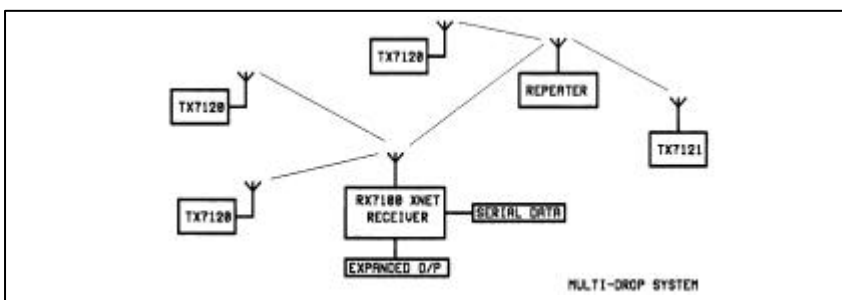


DESCRIPTION

The TX7120 Radio Telemetry Transmitter transmits analogue, digital and pulse counter data by means of low power VHF or UHF radio. An LCD display is provided so that the digital inputs, pulse counter total and scaled analogue inputs can be continually displayed in real time. Dots will appear on the LCD display to indicate a radio transmission. The display is also used for the set up Menu.

A simple real time back-to-back radio telemetry link can be implemented with a RX7120 Transmitter. A number of TX7120 transmitters can be used to transmit data to a single RX7100 XNET Receiver. The destination of each input is programmed into a TX7120 by means of a set up menu along with a transmission time. The TX7120 then transmits the status of its analogue and digital inputs at its time slot to the outputs on the RX7100 Receiver. The receiver data can be presented as physical outputs or in serial form direct to a SCADA package.

The TX7121 low power, battery operated variant will transmit the status of its digital and analogue outputs at preset times or when any change occurs. In addition, a battery status indication is displayed and transmitted to a digital output on the receiver.



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SPECIFICATION

ABSOLUTE MAXIMUM RATINGS

Storage Temperature.....-30 to +85 Celsius
 Operating Temperature.....-25 to +55 Celsius
 Power Supply Voltage +/- 35Vdc dc option
 300Vac ac option
 Digital Inputs+30Vdc to -5V
 Analogue Inputs+15V to -5V
 External Regulated Power Source+100mA

DIMENSIONS

Length = 160mm Width = 80mm Height = 55mm

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION	NOTE
Frequency Range	130		180	MHz	VHF
	400		500	MHz	UHF
	860		960	MHz	UHF
Channel Separation	12.5		25.0	KHz	
Modulation		GMSK			
RF Power	10		500	mW	
Digital Inputs	5		30	V	
Analogue Inputs	0	20	20	mA	Current I/P Voltage I/P Thermocouple
	0	5 J, K	10	V	
Power Supply Voltage	8		30	Vdc	DC PSU
	110		240	Vac	AC PSU
Transmit Current	80	90	120	mA	10mW ERP
	240	280	350	mA	500mW ERP
Standby Current	5	10	15	mA	
Transmit Time	0.15	0.2	2.5	Sec	
Up Date Time		1		Sec	Note 1

Note 1: The up date time on TX7121 Battery powered part can be programmed from 0.5 mins to 50 mins in 0.5min steps or 0.5 hr to 50hrs in 0.5hr steps. A transmission also occurs when an analogue or digital input changes. Continuous transmission can be selected by setting 55 on the red and blue switches.

PART NO	DESCRIPTION
TX7120 -XXX-YY	XXX = RF Frequency YY = RF Power
TX7121-XXX-YY	XXX = RF Frequency YY = RF Power

LCD DISPLAY

The LCD display will show either the status of the digital inputs, pulse counter total or the scaled value of the analogue input. The displayed analogue full scale reading can be set from 1000 to 9000. The analogue and digital displays are toggled by pressing the red switch.

CONFIGURATION

Each digital and analogue input can be programmed to appear as an output on either a RX7120 Telemetry Receiver or a RX7100 XNET Telemetry Receiver. In addition, variable transmission times can be programmed into the unit so that a number of TX7120 can operate on the same frequencies. All parameters are stored on non-volatile EEPROM

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CONNECTIONS

PIN	FUNCTION	DESCRIPTION	DIRECTION
1	+VE	8V Positive DC Input from PSU	IN
2	- VE	0V Negative DC Input	IN
3	EX + VE	5V, 100mA Positive DC Output	OUT
4	EX - VE	0V Negative DC Output	OUT
5	DG1	Digital Input pulled up to 5V, active low	IN
6	DG2	Digital Input pulled up to 5V, active low	IN
7	DG3	Digital Input pulled up to 5V, active low	IN
8	PLS/DG4	Digital Input pulled up to 5V, active low Used as a Pulse counter Input (factory set)	IN
9	AN1	Analogue Input 0-20mA, 0-0.5V 0 – 10V, Thermocouple (factory set)	IN

REVIEW SETUP MENU

The current settings can be displayed as follows:

- Press the grey push button switch. The node number will be displayed:
nn 00
- Press the grey push button switch. The time delay will be displayed:
tt 01
- Press the grey push button switch. The destination of the first digital input will be displayed 00 to 99
1d 00
- Press the grey push button switch. The destination of the second digital input will be displayed 00 to 99
2d 01
- Press the grey push button switch. The destination of the third digital input will be displayed 00 to 99
3d 02
- Press the grey push button switch. The destination of the fourth digital input will be displayed 00 to 99
4d 03
- Press the grey push button switch. The destination of the analogue input will be displayed 00 to 99
1A 00
- Press the grey push button switch. A value from 1-9 will be displayed representing a full scale analogue reading of 1000 to 9000
Sc 2

CHANGE SETUP MENU

The current settings can be changed as follows:

- Set 99 on the Red and Blue switches and press the grey button.
- The above sequence is repeated, but at each stage the values can be changed by either the blue or red switches.

RADIO TRANSMISSION

The TX7120 Radio Telemetry Receiver is offered on three RF frequency bands:

125 MHz to 180 MHz
400 MHz to 500 MHz
860 MHz to 960 MHz

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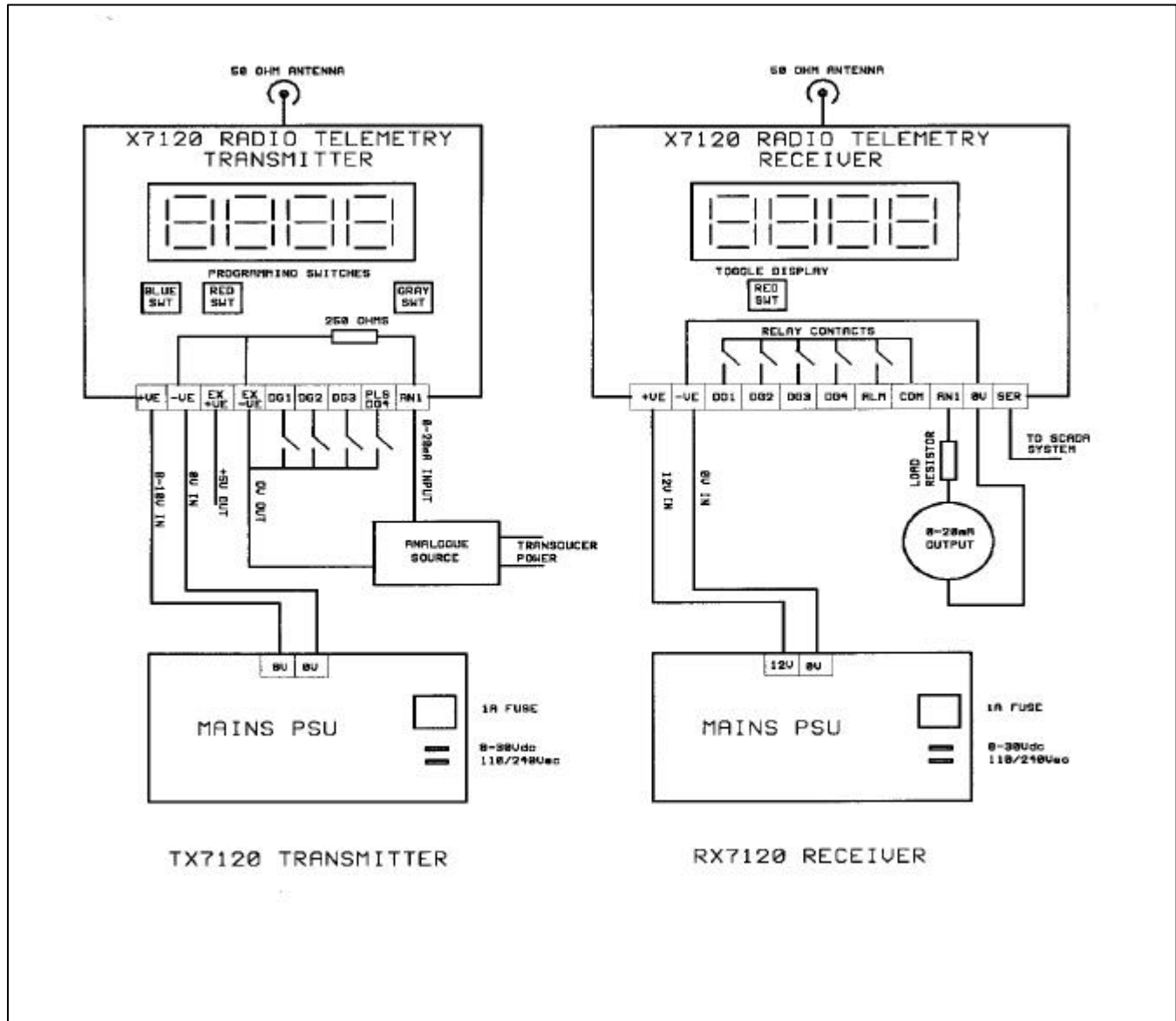
TX 7120 RADIO
TELEMETRY
TRANSMITTER

DATASHEET 144

The RF power can be set from 10mW to 1W
The standard frequencies and RF power are:

173.225MHz at 10mW ERP	
433.075 MHz to 434.775 MHz at 10mW	ERP
458.525 MHz to 458.925 MHz at 10mW	ERP
458.525 MHz to 458.925 MHz at 500mW	ERP
868.000 MHz to 868.900 MHz at 10mW	ERP
868.000 MHz to 868.975 MHz at 500mW	ERP

Two additional variants can be supplied:
Lease Telephone Line Interface
Dial-Up GSM Interface operating on the Mobile Phone Network.



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