

Thermocouple Transmission over Fibre
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PRODUCT – FIBRE LINK FOR REMOTE
 THERMOCOUPLE TEMP MEASUREMENT
 LL600T_Thermocouple
 USER MANUAL
 VERSION a

 09 December 2010

Product: Analogue Transmission	Model:	
Serial Number:	Unit No :	
TEST	CRITERIA	RESULT
<i>Transmitter</i>		
Power Indicator	Green LED	
Charge Indicator	Orange LED	
Full Indicator	Green LED	
Active indicator	Green LED	
Optic output	> -20dB	
Test Link	All channels and gain settings	
<i>RemoteFunctions</i>		
Power Down unit	Unit goes to sleep	
Power Up unit	Unit starts up	
Reset Unit	Complete reset	
Optic Sensitivity	< -25dB	

Date: **Tested By:**

General.

This system is divided into two sides, one is the transmitter and one is the receiver. They are connected by a fibre link. The receiver is used in conjunction with a PC to measure voltages that are picked up by the transmitter. The transmitter is normally in the high voltage area where the sense voltages are connected directly to the transmitter. The fibre optic link has a transmit level of approximately -20dB's and a receive sensitivity of -23dB's. The receiver units are installed in a 19"card frame Operating from 220VAC. It is automatically turned on when the power is applied to the rack. The unit has 1 Isolated Thermocouple input channel. The whole unit is isolated via fibre link to the receiver. The transmitter operates from a built in 12Volt DC battery and draws less than 100mA. The receiver operates from 220VAC. The transmitter has a built in charger that works off a 13 – 15 volt power supply. It has a battery on switch that isolates the battery during storage. This switch has to be on when the unit is charged or used. Each unit has a unique number that will be displayed on the unit and on the receiver display. This is the unit identity and will be used by the remote unit to secure communications.

The Transmitter

The transmitter has 1 type K thermocouple input channel measuring 0 to 1000 degrees centigrade temperature. Resulting in 0 to 10VDC at the receiver. The thermocouple input on the unit is isolated with a estimated value of 5000V from its internal battery and charging circuit. This will remove any possible common mode interference in the input.

The transmitter is automatically switched on when the battery power is applied. The unit can be put in sleep mode via the second fibre input coupled to a remote controller. Battery life when in sleep mode is approximately 2 weeks. See user document for remote controller. When ready to use the unit it can be powered up via the remote unit.

The unit will remember the setting if the power is removed and will switch to the selected condition after power is restored. The unit also measures the

amount of current that is drawn, and will calculate the battery capacity left during operation. When the unit is first switched on it will reset the capacity of the battery to 2Aph.

This capacity will count down as the unit uses power during its operation and it will reduce down to 0 during the time that it is used. The remaining capacity can be displayed at the receiver side. Note that if the battery is removed and connected again the remaining capacity will reset to max.

Dip Switch inside unit.

The transmitter has a 4-way dipswitch. This switch has the same effect on the receiver as the switch located on the receiver card. The fibre must be connected to enable this operation from the transmitter. Data is sent from the transmitter to the receiver via the fibre. The transmitter is pre-programmed to send various signal levels to the receiver and in addition a triangular wave of 1kHz is sent when selected. See receiver section.

Remember to switch these dipswitches to the “off” position again after you have completed your tests, to enable normal operation.

The dipswitches are really just for lab set-up, if you need to do any checks.

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