Specifications: RL-CU Collection & Display Unit

Mechanical / Environmental

- Dimensions: 160 x 120 x 75mm, excluding antenna, power supply or cables
- Weight: 750g approx excluding cables and optional add-ins
- Operating temp. range: 0C to +40C, humidity 20-80% non-condensing
- Case: Polycarbonate
- Dust / Waterproofing: IP54
- Connectors: BNC antenna, 25-pin D-Sub (printer), 9-pin D-Sub (RS232), 2.5mm power
- Clock accuracy +/- 2 seconds per day
- Display: 16 characters x 2 lines, LED backlighting when externally powered.
- Keypad: 12 keys
- Power requirements: 240V AC 50/60Hz, external unregulated 800mA plug-top supply provided with UK or EU fitting.
- Antenna: built-in transmitter antenna; two external receiver antennae provided, one short and one on end of 1.5m extension cable

Recording Channels

- Number of channels: (standard version CU) 1-32, (High-precision version CU100) 1-24
- Data accepted: MR-T, RL-TT, RL-HT (one channel per channel transmitted)
- Data accepted: MR-PT100, MR-T, RL-TT, RL-HT (High-precision version CU100 only)
- Recording intervals: I,2,3,4,5,6,10,15,20,30 or 60 minutes

Memory

- Nonvolatile EEPROM (battery not required for preservation of data)
- 32000 date/time/value records, divided amongst number of channels in use. (16000 records for High-precision CU100)
- 1000 records if 32 channels are programmed (666 records for 24 channels in CU100)
- Oldest data overwritten when full
- Unique serial number pre-programmed into each unit.
- 21-character spaces for each recording channel (programmable from PC)
- 21-character spaces for general description and operator name
- Maximum recording time before overwriting: 3.5 years (1 channel, 1 hour recording)
- Minimum recording time before overwriting: 16 hours (32 channels, 1 min recording)

Alarms etc.

- Two LED indicators, steady green and flashing red. Audible alarm configurable via PC
- High and low alarm levels configurable via PC in 1.0C increments (0.1C increments for CU100)
- Alarm delay configurable up to 3 hours after levels are exceeded
- Green: "all clear"; Red flash: "alarm state"
- Both Red & Green: all clear now, but alarm has occurred since last download
- Alarms not activated until recording starts
- Display shows lack of radio signal if no data has been received for more than the programmed recording interval
- Alarm condition generated if all radio signals lost
- LED and audible alarms can be cancelled via keypad
- External alarms (via cable / radio / optional modem or network adaptor) configurable via PC setup.
- External alarms direct to PC running IceSpy software in 'Automatic Reading' mode, or text (SMS) transmission to SMS service provider; choice configurable via PC setup.
- External alarms can only be cancelled externally (i.e. not via keypad) by data download to PC or successful SMS
- Keypad function for sending test alarm
- Automatic monitoring of up to four repeaters (RL-RU); visual indication on display if radio reception from any repeater is lost for more than 60 minutes

Display / Keypad functions available

- View current status of any programmed channel: value shown is last successful reception of data from tansmitter
- Automatic scroll of all channels, changing at 2-second intervals
- Print listing, alarms or maximums/minimums to attached parallel printer
- Cancel local LED and audible alarms
- Cancel indication of lost repeater
- View settings of alarms levels and delays
- View transmitter serial numbers and descriptions
- View unit serial number and project description
- View presence of up to four RL-RU repeaters within radio range
- View modem telephone numbers set (if optional modem installed)
- View current time
- Search for and install new transmitters which are not currently being recorded
- View internal firmware version

ICESPY® RL SYSTEM

Temperature accuracy

- Meets UK Food Hygiene Regulations
- Equivalent to accuracy of sensors / transmitters being recorded.
- No loss of accuracy, all data transmission and storage is digital.

Printing

- Connection to optional parallel printer (cable provided with printer)
- Printout on demand via keypad control
- Prints up to ten channels in each listing
- Prints serial number, general description, channel descriptions
- Prints date / time / temperature (or door status) for each channel for each record
- Can print maximum and minimum values for each channel
- Can print alarm events for each channel
- Prints latest values of a selectable amount of data (min. one hour, configured via PC)

Battery / Power requirements

- Main backup: Nickel Cadmium 600mAH, provides >8 hours operation during mains power failure (all functions except backlight on display). Disconnected during storage previous to installation.
- Clock / memory secondary backup: Lithium coincell 100mAH, provides time and data retention for >12 months without main backup or external power
- External Power requirements: DC adaptor provided, 12V 800mA unregulated

Communications

- Setup and download by cable (supplied), by radio link (using optional PC-TU transceiver for computer), by modem (using optional modem) or by network connection (using optional network adaptor)
- Serial Port: 9-pin, RS232, 19200 baud, 8 bit no parity, for direct PC communications via supplied cable.
- Internal Serial Port, 9-pin, RS232, 19200 baud, 8 bit no parity, for connection to optional internal modem (RL-CU-MU) using Hayes command set
- ASCII data output at one 1-second or 1-minute intervals for external control purposes
- Radio receiver: licence-exempt 433.9 MHz to receive data from IceSpy transmitters
- Radio transmitter licence-exempt 433.9 MHz to enable data download to PC (using optional RL-PCTU transceiver attached to PC) – 9600 baud, 8 bit no parity
- Data download: full data or part only (configurable via PC)
- Download time (full data): 60 seconds via cable, 2-3 minutes via radio