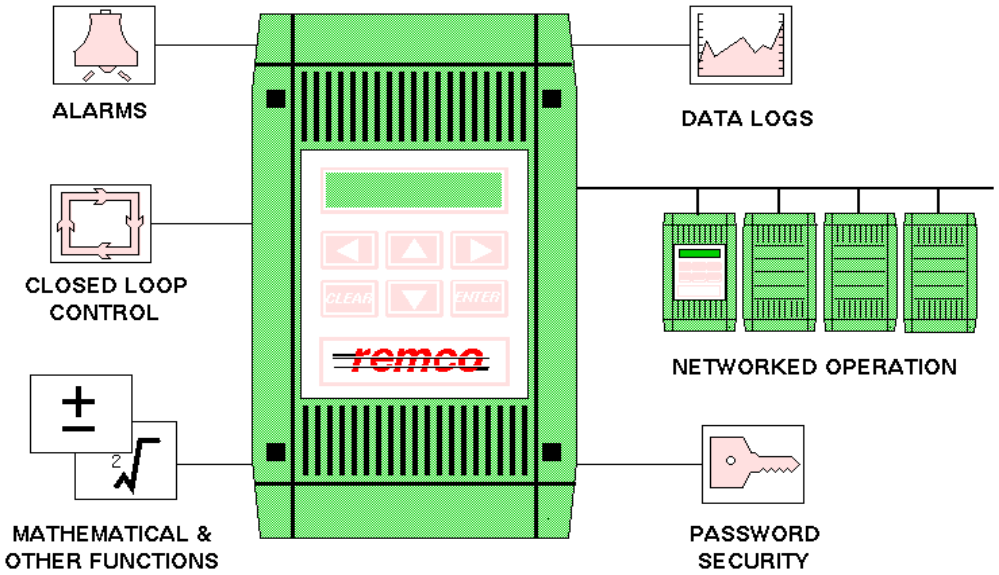
2. Intelligent Data Acquisition



Remco Overview

Remco has developed a complete range of monitoring and control equipment specifically designed for civil and structural engineering applications. These applications include:

- Cathodic protection monitoring and control
- Corrosion monitoring (Condition monitoring)
- Structural monitoring

The ***remco*** system offers a comprehensive and cost-effective solution to all remote monitoring and control applications. Key features of the system include:

- Flexible modular design provides economic solutions
- Proven fast network communications
- Monitoring of a wide range of sensors
- Alarm reporting to a range of network devices
- Operates under MS Windows (versions 98, Millennium, 2000, NT & XP)
- Customised presentation of live and historical data
- Data acquisition and reporting at operator specified intervals either manually or automatically at pre-scheduled intervals
- Supports operator friendly supervisor software with on screen dynamic graphics display

A comprehensive bureau service is also available whereby ***remco*** will monitor and/or operate the monitoring system remotely and report to the Client at agreed intervals.

Intelligent Data Acquisition

The ***remco*** system comprises several modular data acquisition and control units with a built-in data communications facility. Each unit has a stand-alone capability and is an `intelligent' system which may be programmed on site.

Several units may be linked together to form a local area network (LAN). By incorporating a modem and dedicated telephone line to the LAN a full remote monitoring and control system can be established via an IBM compatible office-based desktop or laptop supervisor personal computer (PC) with modem and communications software.

Data may be collected at operator specified intervals either manually or automatically at pre-scheduled intervals via the supervisor PC. Data may also be accessed locally on-site via the keypad.

The ***remco*** system has a comprehensive integral alarm reporting facility. Alarm limits may be pre-set such that a monitored sensor or combination of sensors, falling outside the set limits, would trigger an alarm and report it automatically to a preset range of network devices which could include computer displays, printers, facsimile stations or radio pagers.

Detailed database records may be generated for alarm events recording entries for alarm type, time and date in a log. Alarm prioritisation permits round the clock fault reporting to be enabled. Alarms may also be set up for the diagnostic reporting of local hardware and communications failures.

UC12E/CP Base Units

The ***remco*** UC12E/CP base unit is the basic building blocks of the ***remco*** monitoring and control system. The U88/UD88 units are housed in very compact modular DIN rail enclosures complete with segregated wiring. This modular approach reduces design, installation and maintenance costs.

The UC12E/CP unit is intelligent and capable of monitoring and controlling a wide range of sensors and may be operated as a compact stand-alone monitoring and control solution or linked together to form extensive networks using the complementary ***remco*** communications network controllers (UCC4's). The network may be connected via an industry standard modem to enable full remote monitoring and control capability from an office based supervisory desk-top or lap-top personal computer (PC).

The UC12E/CP unit has built-in password security with up to 99 levels of operation so that access to programme the units and to retrieve data can be tailored to each specific task undertaken and the skill level of the operative.

Data storage and time functions are battery backed for 2 years in case of power failure.

TECHNICAL SPECIFICATION	
BASE UNIT OPTIONS	**UC12E/CP** 8 Universal Inputs 4 Universal Outputs
COMMUNICATIONS	
Sub-network	RS485 with plug-in terminals
Baud rate	1200, 9600, 19200, 38400 baud selected via internal DIP switch
RS232 Connections	Each unit has an RS232 communications port for local interrogation of software.
Baud rate	1200 or 9600 baud
PROCESSING	
Micro-processor	VLSI Motorola, 68HC11 8MHz
Memory	64KB EPROM, 32KB RAM (battery backed for 2 years minimum)
Time functions	Real-time clock provided by sub-network controller Keypad or plug-in battery real-time clock is available for stand-alone operation
Datalogs	16 datalogs, each with capacity of 192 data values at a frequency of 1 second upwards
Control	Stand-alone or sub-networked operation (63 UC12E/CP with a single UCC4)
PHYSICAL	
Size	225x130x45mm 0.7kg weight
Enclosure	Flame retardant injection moulded plastic, IP20 protection
Mounting	35mm DIN rail EN50 022
Ambient operating limits	0-50°C, 0-90% RH non-condensing
ELECTRICAL	
Power supply	24VAC ±20% 50Hz, transformer rating 10VA
Overload protection	0.5A fuse (quick blow)
Supply failure	Non-rechargeable lithium cell maintains data & time functions for 2 years minimum at 25°C (cell life 10yrs)
Terminals	2 part plug connectors for all inputs, outputs, networks & power connections

Remco Systems Limited
Suites 12 & 14 Holland House
Bath Street
WALSALL WS1 3BZ
Tel: +44 1922 641444
Fax: +44 1922 621550
Email: remcoltd@aol.com

Information Sheets:

1. Remco Overview
2. **Intelligent Data Acquisition**
3. Networked Solutions
4. Cathodic Protection Monitoring & Control
5. Corrosion Monitoring