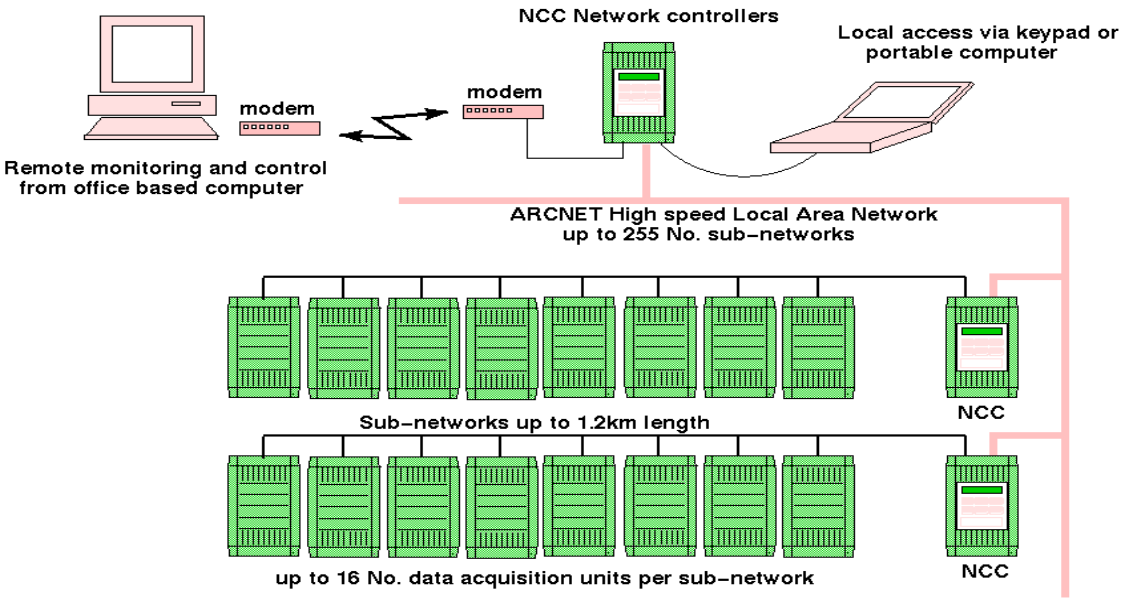
3. Networked Solutions



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 graphic displays

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.

Networked Solutions

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 or GSM modem to the LAN a full remote monitoring and control system can be established via an IBM compatible office-based supervisory 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 or through a suitable RS232 communications port to enable a laptop to be linked into the system on site.

The ***remco*** system provides facilities for displaying data graphically or as customized reports.

Data may also be retrieved in a file format suitable for export to a spreadsheet program should the need arise for further analysis.

NCC Network Communications Controllers

The ***remco*** UC12E/CP and UCC4 base units are the basic building blocks of the ***remco*** monitoring and control system. The base units are small and modular and may be operated as a compact stand-alone monitoring and control solution or linked together to form extensive networks.

The ***remco*** network communications controller (UCC) links together up to 63 No. modular data acquisition and control base units to form a sub-network. In turn up to 255 No. sub-networks (UCC's) may be networked together using an ultra fast ARCNET communications network. The ***remco*** system is flexible and powerful to monitor and control a wide range of applications from the smallest installation up to largest controlling over 192,000 sensors/devices in a single ultra fast network. The network may be connected via an industry standard modem to enable full remote monitoring and control capability from an IBM compatible office based supervisory desktop or laptop personal computer (PC).

The ***remco*** system uses an extremely fast communications network, ARCNET, a computer industry standard. ARCNET enables the network of UCC's to deal with ultra fast data transmission rates (2.5 megabits per second) which provides the ***remco*** system with the highest levels of interactive control and monitoring capabilities.

TECHNICAL SPECIFICATION	
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
PROCESSING	
Micro-processor	VLSI Motorola, 68HC000 8MHz
Memory	128KB EPROM, 256KB RAM (battery backed for 2 years minimum)
Time functions	Real-time clock synchronises all controllers on LAN
Keypad (integral, remote or none)	6 button membrane keypad with 32 character alphanumeric LCD backlit display
ELECTRICAL	
Power supply	24V AC +/-20% 50Hz
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
COMMUNICATIONS	
Sub-network	RS485 LAN with plug-in terminals, maximum sub-network length 1.2km
Baud rate	1200, 9600, 19200, 38400 baud selected via internal DIP switch.
Monitoring and control devices supported	63 No. UC12E/CP base units
Cable type	2 core braided screened twisted pair (minimum gauge AWG24)
High Speed Local Area Network	ARCNET with BNC (female) terminals
Transmission speed	2.5MBs
Devices supported	255
Cable type	Coaxial RG62A/U Fibre optic & twisted pair transmission with converter
RS232 Connections	1 or 3 RS232 ports for connections to modems, serial printers or supervisory PCs.
Baud rate	300 to 19200 configurable with RTS/CTS handshaking
Cable type	8 core screened, or 3 core for no handshaking

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Information Sheets:

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