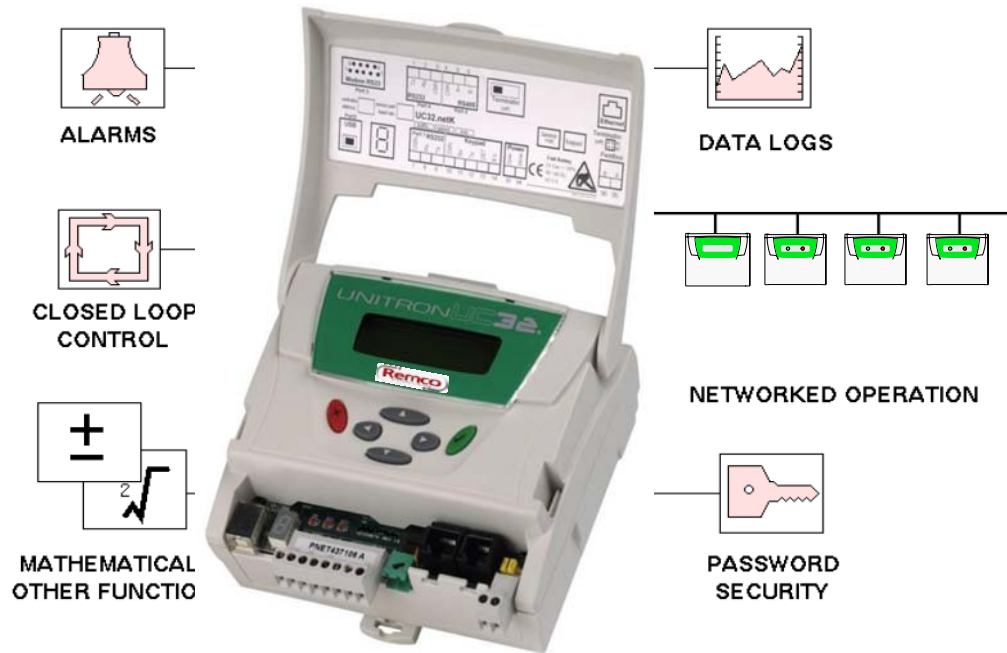


2. Intelligent Data Acquisition



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 (, 2000, NT, XP & Vista)
- ◆ 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.

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Information Sheet 2-2

The **Remco** UC32.16 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 UC32.16 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 (UC32.net'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 UC32.net 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

ELECTRICAL

Supply Requirements	24 V AC +/- 20% 50/60 Hz
Transformer Rating	with UCKRA420: 20 VA without UCKRA420: 15 VA
Power Rating	10 Watts maximum
Fuse Rating	1 A resettable

PROCESSOR

Type	Hitachi (Renasas) SuperH SH17034 32-bit RISC
Clock Speed	20 MHz
Operating System Memory	512K flash
User Programmable Memory	512K RAM Battery backed for 2 years minimum plus 256K flash
Real-Time Clock	Battery backed for 2 years minimum

INPUTS/OUTPUTS

8 Universal Inputs (Points 1 - 8)	(Software selectable Interfaces) Active Input 0 – 10 V @ 182 K Ω . 16 bit resolution. Passive Input for a large range of sensors, Reference Electrodes are recommended @ 16 bit resolution. Active Current Input 0 – 20 mA @ 390 Ohms. 10 bit / 16 bit resolution. Digital Volt-Free contact @ 1 mA continuous. Pulse Counting up to 20 Hz, minimum pulse width 25 mS. 40 samples/second Potentiometer input (0 K Ω -10 K Ω , 1 K Ω - 11 K Ω etc).
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The following UniPut™ features are available with .s32 format strategies created with the Untron Engineering Centre:

8 UniPuts™+Relays (Points 17 - 24)	(Software selectable interfaces) Active Input 0 – 10 V @ 40 K Ω . up to 64 bit resolution. Active Output 0 – 10 V @ 20 mA max load. Digital Volt-Free contact @ 25 mA not continuous. 24 Vac Detect NO 24 Vac Relay contacts, 2 A continuous/ 15 A inrush
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COMMUNICATIONS

RS232 service port	@ 1K2, 2K4, 9K6, 19K2 or 38K4 Baud (defaults to 9K6) [cable: CC20/CAB]
Fieldbus RS485 port	@ 1K2, 2K4, 9K6, 19K2, 38K4 or 76K8 Baud (defaults to 38K4)
Keypad port	@ 9K6 Baud, RJ11 socket
Modem	Modem connection supported through RS232 service port [cable: CC31/CAB]

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Information Sheets:

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

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