

Control

2000

ADVANCED TECHNOLOGY



A new concept in industrial RTU's

DNP3 Compliant

ISaGRAF Ready

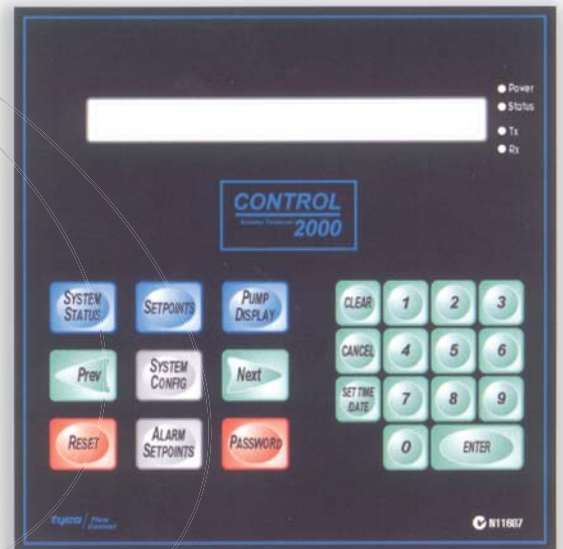
tyco

Flow Control

**Micro Control
Engineering**

Control 2000

ADVANCED TECHNOLOGY



The Control 2000 range of intelligent RTU's is the result of a very careful analysis of a wish list derived from major users of typical RTU's and PLC's.

Ease of Implementation

The **Control 2000** range of intelligent controllers can act as stand alone telemetry units or can be networked to produce a powerful distributed control system. One of the most significant features being the easy adaptability to provide a wide range of engineering solutions to both control and monitoring applications.

Local Control Capability

The RTU is a cost effective, intelligent controller designed for remote control, monitoring and data logging. It is superior in most aspects to traditional PLC's and RTU's. It is capable of executing control commands issued by a master station and returning a variety of data such as the current I/O status, logged analogue values, pulse counts etc.

Flexibility in Programming

The RTU possesses a powerful range of programming capability providing complex automated control in its own right or as a backup should the communication link fail. The high level of local intelligence allows for features such as data encryption in security applications, proprietary standard algorithms such as Gas Transmission AGA3 and protocol conversion to be easily implemented. Multiple units can be distributed at any location with complete interchange of data. While existing PLC protocols can be emulated if necessary, the RTU is designed around the DNP3 international standard. The implementation of ISaGRAF, when required, provides the additional flexibility offered by this software including remote diagnostics and completes a very powerful and cost effective control solution.

Control 2000 Modules

- 16 Relay Output/ 8 Digital Input/4 Analogue Inputs
- 8 Relay Output/ 16 Digital Input/4 Analogue Inputs
- 32 Digital Inputs
- 12 Analogue Inputs
- 32 Relay Outputs

Features

- ✓ DNP3 Compliant
- ✓ ISaGRAF Ready
- ✓ Remote programming
- ✓ Remote diagnostics
- ✓ Local programming without lap top
- ✓ Local display of all measured parameters and alarm levels
- ✓ Easy change, automatic detection of modules
- ✓ Keyed connectors for no error re-connection
- ✓ Multi level password security on keyboard
- ✓ Backlit display for easy reading
- ✓ Multiple communications system eg. PSTN and radio connected to same RTU



DNP3 offers flexibility and functionality that goes far beyond conventional communications protocols.

Features include:

- ✓ Output Options
- ✓ Secure configuration / file transfers
- ✓ Addressing for over 65,000 devices on a single link
- ✓ Time synchronisation and time-stamped events
- ✓ Broadcast messages
- ✓ Data link and application layer confirmation

Module 1

16 Relay Outputs / 8 Digital Inputs / 4 Analogue Inputs

Consists:

16 Output Relays rated at 3 amps @ 30 volts DC. Relays are rated for 20×10^6 Mechanical operations and 150×10^3 Electrical operations. Optional surface mounted socket available for easy site removal.

8 Optical Isolated Inputs. Opto isolation rated at 1600volts DC. All opto isolators are fitted into surface mounted sockets for easy site removal.

4 Analogue Inputs 12 bit A/D converter accept industry standard analogue inputs. All inputs are optically isolated to 1600volts DC.

Module 2

8 Relay Outputs / 16 Digital Inputs / 4 Analogue Inputs

Consists:

8 Output Relays rated at 3 amps @ 30 volts DC. Relays are rated for 20×10^6 Mechanical operations and 150×10^3 Electrical operations. Optional surface mounted socket available for easy site removal.

16 Optical Isolated Inputs. Opto isolation rated at 1600volts DC. All opto isolators are fitted into surface mounted sockets for easy site removal.

4 Analogue Inputs 12 bit A/D converter accept industry standard analogue inputs. All inputs are optically isolated at 1600volts DC.

Module 3

32 Digital Inputs

Consists:

32 Optical Isolated Inputs. Opto isolation rated at 1600volts DC.

All opto isolators are fitted into surface mounted sockets for easy site removal.

Module 4

12 Analogue Inputs

Consists:

12 Analogue Inputs. 12 bit A/D converter accept industry standard analogue inputs. All inputs are optically isolated at 1600volts DC.

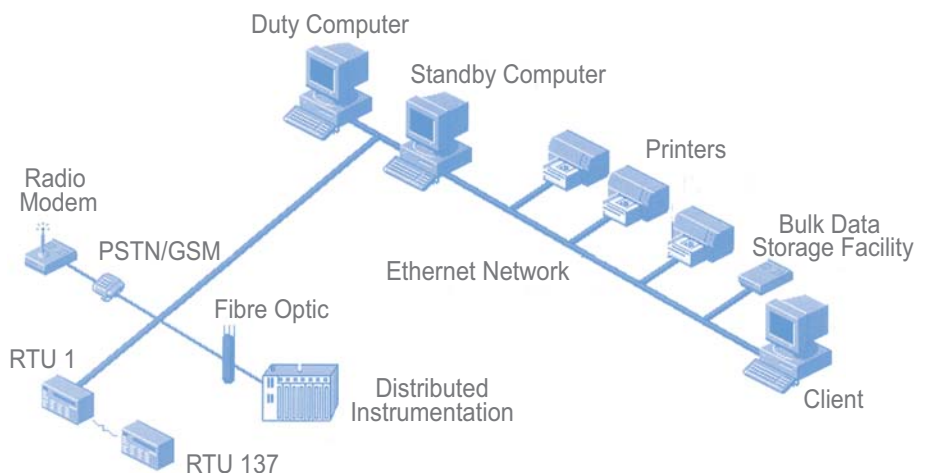
Module 5

32 Relay Outputs

Consists:

32 Output Relays rated at 3 amps @ 30 volts DC. Relays are rated for 20×10^8 Mechanical operations and 150×10^3 electrical operations. Optional surface mounted socket available for easy site removal.

Typical Overview



Specifications

Enclosure Size	Variable (IP44/54/55)
Module Size	220mm (W) x 200mm (d) x 56mm (h)
Connectors	3 x RJ-12 (RS-232 Comm.) The following combinations are I/O specific: Phoenix power Connector 3 Way Socket (MSTBA Series) Phoenix Relay Connector 12 Way Socket (2 level 6 Way) Socket (MDSTB Series) Phoenix Digital Inputs Connector 20 Way Socket (2 level 10 Way) Socket (MDSTB Series) Phoenix Analogue Inputs Connector 8 Way Socket (2 level 4 Way) Socket (MDSTB Series) Phoenix RS485 Comm. Connector 6 Way Socket (2 level 3 Way) Socket (MDSTB Series) (All Phoenix Type Socket uses Plugs that handle 12 to 24 AWG wire) 1 x 2x16 2.54mm Pitch Header for LCD Interface (2x40)or(4x40) 1 x 1x13 2.54mm Pitch Header for Keypad Interface (5x8 40 Keypad) 1 x 2x5 2.54mm Pitch Header for RS485 Slave Port for internal connections 2 x 1x8 2.54mm Pitch Header for Driving 4 LED's on the Keypad Membrane
Temperature	0°C to +60°C
Humidity	5% to 95%, no condensing
Supply Voltage	20 V to 36 VDC, 22 to 26 VAC, 240 VAC, 50 Hz
Power Consumption	Typical 15W up to 47W
Onboard Voltage Regulator	1 x switching regulator sources 5VDC at up to 1A 1 x switching regulator sources 12VDC at up to 1A 1 x Isolated DC/DC Converter 3W 24VDC to 5VDC@600mA 1 x Isolated DC/DC Converter 3W 24VDC to ± 12 VDC @ 125mA 1 x Switched Capacitor Voltage Converter sources - 5VDC at up to 120mA
Digital Inputs	Opto-Isolated Digital Inputs Opto-Isolated digital Inputs with 1600VDC Isolation Digital inputs can supply ground referenced to the +5V Isolated or open collector output referenced to the +5V Isolated
Relay Outputs	Relays SPST (N.O) 3A @ 30 V DC, 3A @ 250 VAC Max. contact settling time 10 ms Isolation is at 3000VAC 1 Minute Between Coil and Contact Current Sensing on Relay Bank
Isolation Relay	5A @ 30 V DC, 5A @ 250 VAC isolation relay for all Outputs Voltage/Contacts (where fitted)
Analogue Inputs	12-bit A/D converter inputs to sense 4-20mA from Transducers operating at 24VDC Opto-Isolated analogue Inputs with 1600VDC Isolation
Serial Ports	3 x RS-232 two with CTS/RTS, or 4 x RS-485, onboard network termination and bias resistors per module, or any combination of up to 4 serial ports
Slave Interface	A slave port allows cascading to other boards using RS485 serial comm
Board Address	8 DIP switches to determine unit address
LCD	Interface to a 2x40 or 4x40 LCD Module with backlit supply
Keypad	Interface to 5x8 keypad (40 keys)
On Board Status	8 X SMD Green Status LED's and Drivers for Keypad LED's
LEDS	3 X SMD Red Power LED's (for 5V 12V 24V) 8 X SMD Red Relay Output Active LED's.
Buzzer	On Board Buzzer
Reset Switch	1 x Tactile reset switch Connected to RCM2100 core module
Fuses	1 Fuse for Supply for On Board System, Fuses for Relay Output Voltage
Backup Battery	3V lithium coin type CR2450, 500 mAh using onboard battery holder
CPU Core Module	Rabbit Semiconductor RCM2 100 Series Microprocessor: Rabbit 2000 Clock: 22.1 MHz SRAM: 512K x 8, surface mount Flash Memory: Two 256K x 8, surface mount Timers: Five 8-bit timers cascadable in pairs, one 10-bit timer with 2 match registers that each have an interrupt Serial Ports: Four CMOS-compatible ports. Two ports are configurable as Clocked ports, one is configurable as RS-232 programming port Watchdog/Supervisor Time/Date Clock

*Note that specifications are subject to change without notice.



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