



armfield

INDUSTRIAL PLC UNIT

PCT19BR

issue 6



The Armfield PCT19BR Industrial PLC Unit employs the widely used Allen Bradley SLC500, together with suitable software and hardware connections to allow a multi-channel compatibility with selected instructional equipment from the Armfield range. The Unit accepts up to 6 analogue and 8 digital input signals and provides 2 analogue and 8 digital output signals for use in configuring a wide variety of control loops for study and demonstration.

KEY FEATURES

- *Incorporates Allen Bradley SLC500 Industrial PLC with analogue and digital inputs and outputs*
- *Analogue input PID with analogue and alarm output*
- *Analogue input PID with analogue and time proportioned output*
- *Single and dual loops*
- *Advanced serial communications RS232 and RS485*
- *Ladder logic programming software via PC with or without process connected*

Process Control Technology

PCT



SOFTWARE PROVIDED

Ladder logic software is provided on disk to permit the unit to operate as:

- i) two independent analogue PID controllers
- ii) inclusion of digital alarm on one of the PID loops
- iii) time-proportioning digital output on one of the loops

Programming the Unit requires a PC (not supplied) with RS232 serial communications to allow:

- | | |
|---------------------------|-----------------------|
| i) Setting | ii) Monitoring |
| ● set-point | ● process variables |
| ● PID control parameters | ● controller outputs |
| ● alarm value | ● alarm conditions |
| ● direct/reverse acting | |
| ● manual/auto PID control | |

Users may modify or re-write the ladder logic from a PC. Two built-in manually adjustable voltage sources are provided on the front panel to use as inputs to learn and demonstrate ladder logic, with a built-in LCD voltmeter to monitor outputs.

A 9-pin serial cable is provided (for connection to a PC), as is a 6-pin DIN connector to obtain power from Armfield process hardware. (see text under 'Essential Additional Equipment').

TECHNICAL SPECIFICATIONS

Allen Bradley SLC500 comprising:

- SL5/02 CPU 4k RAM
- 7 slot I/O rack
- power supply (110/240V ac)
- 2 input - 2 output analog combination module
- 4 way analogue input card
- 16 way TTL input module (8 used)
- 8 way relay output module
- KE communications interface

Communications:

Both RS232 and RS485

Ladder logic software: Rockwell RS Logix programming software for Allen Bradley SLC500 (Windows).

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ORDERING SPECIFICATION

- An industrial PLC (Allen Bradley SLC500) with RS485 and RS232 serial communications.
- Front panel connections for 2 digital inputs, 2 digital outputs, 2 analogue inputs, 2 analogue outputs, 2 voltage sources and 1 voltmeter.
- Rear panel connectors for 6 analogue inputs, 2 analogue outputs, 8 digital inputs and 8 digital outputs.
- Ladder logic software is provided.

ESSENTIAL ADDITIONAL EQUIPMENT

PC with one RS232 serial port running: Windows 98, NT4.0 (SP5) or newer, or XP operating systems.

The PLC unit requires an appropriate item of: Armfield Process equipment in order to supply power to the unit.

The relevant Armfield items are:

- Process Plant Trainer, PCT23MkII
- Distillation Columns, UOP3BM or UOP3CC
- Basic Process Control System PCT40 (see relevant literature for above items)

SUGGESTED ACCESSORIES

(1) SCADA Software, PCT23SCADA

This software contains the facilities required to demonstrate SCADA using the Armfield PCT23MkII and PCT19BR.

It includes:

- SLC500 ladder logic routines written specifically for the PCT23MkII
- The communications facilities to allow the PCT23MkII software to display and data log the SLC500 parameters
- The additional exercises for the PCT23MkII, allowing SCADA to be demonstrated in the same manner as the other exercises

(2) Process Control System PCT40

The PLC can be used to control a single loop with a disturbance. Alternative loops can be configured by the user

SERVICES REQUIRED

PCT19BR - A: 220-240V/1PH/50Hz
PCT19BR - B: 120V/1PH/60Hz
PCT19BR - G: 220V/1PH/60Hz

OVERALL DIMENSIONS

Height: 300mm
Width: 520mm
Depth: 416mm

SHIPPING SPECIFICATION

Volume: 0.2m³
Gross weight: 49kg