



# PTC-1<sup>®</sup> Traffic Signal Control

## PTC-1 family of controllers

Today's growing infrastructure continues to place high demands on budgets and technology. In addition to supporting the management of congestion and the need for effective journey time reliability, meeting environmental targets remains a core requirement. Getting the most out of traffic control equipment has become imperative and being able to do this whilst catering for the complexities of modern junctions is challenging. The PTC-1<sup>®</sup> family of controllers delivers the solution to these requirements and more.

### Proven technology

The established PTC-1 offers a robust and reliable solution to the growing demands of modern junctions and pedestrian facilities. The original PTC-1 offers efficient control for larger junctions, whilst the smaller PTC-1 Lite has been developed to run small junctions and pedestrian crossings. The PTC-1 will drive and monitor both 230V Halogen aspects, in addition to 48V & 230V LED energy efficient aspects; the PTC-1 family of controllers is therefore truly adaptable and able to deliver in any given situation.

## Ease of use

The ability to obtain information from on-street equipment is critical to the smooth running of any road network. Integral to the PTC-1 controllers is a suite of Windows™ application tools providing facilities for configuration, simulation and communication.

Simplifying a historically complicated process, the application tools enable the configuration of a junction graphically and the simulation of its operation, including the detectors, with real traffic data. Access to the controller to modify site data or for maintenance purposes is also simple for any user; either via a web browser (e.g. Internet Explorer) or through a terminal emulator (e.g. HyperTerminal) using the familiar TRX handset commands.

The web browser and site mimic graphics provide a comprehensive display allowing data to be changed remotely, including detector function, without the need to turn off the site.

**"Over the past few years we have installed a significant number of PTC-1 controllers; the functionality is impressive, its reliability exemplary and we continue to benefit from lower energy consumption."**

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Dave Caborn, UTMC Principal Engineer,  
Kirklees Council

As junctions become more complex and traffic demands grow, the need for effective communications between Urban Traffic Control (UTC) systems, on-site engineers and on-street equipment continues to be a key requirement for efficient traffic management. The PTC-1 family of controllers provides Internet Protocol (IP) communications as standard to enable and support the use of the latest in low cost communications technology.

The addition of UG405 operation enables the PTC-1 IP family of controllers to be connected directly to a roadside Ethernet connection without the need for a Chameleon or 3rd party UG405 compliant outstation unit.

## Simplifying installation, reducing costs

The ability to fit a latest generation controller to an existing site offers a speedy installation; reducing the costs of traffic management and Civil Engineering works. For this reason, the PTC-1 has been developed to fit to an existing TRX root. The PTC-1 Lite offers the same savings when retrofitted to any TSP or TSC3 Root.

The latest addition to the PTC-1 family is the 'Cuckoo' which lends itself to situations where updated technology is required to improve performance, however the existing cabinet is too good to waste. The 'Cuckoo' can reside in a majority of controller cabinets and give the full functionality of the PTC-1 at any junction.



## Key features

- Capable of 36 phases LV/ELV OR split voltage; 20 phases LV plus 16 phases ELV
- Integral UTMC communications available with directly enabled UG405 operation
- Support software includes user friendly Windows™ based configuration and simulator packages
- Integral quad Outstation Transmission Unit (OTU) for connection to existing UTC networks
- State-of-the-art, surface mount electronic circuits, resulting in high reliability and low maintenance
- Multiple user interfaces – USB, IP (Ethernet) and RS232 supported
- Comprehensive fault log facilities
- High accuracy integrated speed measurement
- Traffic control programs stored in flash-EPROM
- Central Processing Unit (CPU) contain two independent processors; one for control and one for supervision.
- Supports direct communication with various third party IP based detection equipment
- Compatible with PTC- RLCS equipment as a 'hybrid' controller.
- Supports multiple Controller Linking via IP Network with PTC-1 Connect feature
- Facilitates Direct Connection to Dynniq RMS with Alert+ Software
- Supports Wig Wag signals.

## Environmental credentials

Elxon Codes	Watts	Annual kW:Hr	CO <sub>2</sub> kg pa
79 06 058 000 100	58	508	273

**"We have found the PTC-1 communications capability and web browser functionality particularly beneficial. The controllers themselves perform very well and offer us the flexibility we need to support our various site requirements"**

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Steve Wright, Traffic Signals Engineer,  
North Yorkshire County Council



## PTC-1 Connect

PTC-1 Connect is an IP (Internet Protocol) based communication feature that allows multiple PTC-1 Controllers to be linked together, and for information to be passed between two or more controllers. This feature can be used in any application where two or more controllers need to pass information between themselves, such as MOVA Linking, PED linking or sites installed on bridges and similar applications where the ducting associated with "conventional" controller linking can be problematic.

## Technical specification

The table below gives a summary of the PTC-1, PTC-1 Cuckoo and PTC-1 Lite functions and capabilities.

	PTC-1 & PTC-1 Cuckoo	PTC-1 Lite
<b>Processors</b>	Power PC for applications and Coldfire for independent safety monitoring	Power PC for applications and Coldfire for independent safety monitoring
<b>User interface</b>	<ul style="list-style-type: none"> <li>• 1 x Ethernet port</li> <li>• 2 x USB ports</li> <li>• 1 x RS232 engineer's terminal interface</li> <li>• 1 x RS232 modem interface</li> </ul>	<ul style="list-style-type: none"> <li>• 1 x Ethernet port</li> <li>• 2 x USB ports</li> <li>• 1 x RS232 engineer's terminal interface</li> <li>• 1 x RS232 modem interface</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>• PTC-1: 36 phases</li> <li>• PTC-1 Cuckoo: 48 phases (20 physical)</li> <li>• 8 stage streams</li> <li>• 8 hurry calls</li> <li>• 32 CLF plans</li> <li>• 64 groups per plan</li> <li>• 255 timetables</li> </ul>	<ul style="list-style-type: none"> <li>• 8 phases</li> <li>• 8 stage streams</li> <li>• 8 hurry calls</li> <li>• 32 CLF plans</li> <li>• 64 groups per plan</li> <li>• 255 timetables</li> </ul>
<b>Mains voltage</b>	230V      -13% ... +10% 50/60Hz   -4%    ... +4%	230V      -13% ... +10% 50/60Hz   -4%    ... +4%
<b>Energy reserve</b>	>= 50ms	>= 50ms
<b>Lamp outputs</b>	<ul style="list-style-type: none"> <li>• 48V / 230 AC</li> <li>• 4Amp per output</li> <li>• 7A total (per LCM)</li> <li>• 32A total (36 phases)</li> </ul>	<ul style="list-style-type: none"> <li>• 48V / 230 AC</li> <li>• 4Amp per output</li> <li>• 7A total (per LCM)</li> <li>• 16A total</li> </ul>
<b>Operating temperature</b>	-15°C to +60°C	-15°C to +60°C
<b>Cabinet (standard)</b>	<ul style="list-style-type: none"> <li>• IP rating 55</li> <li>• 1185H x 740W x 432D mm</li> </ul>	<ul style="list-style-type: none"> <li>• IP rating 55</li> <li>• 985H x 701W x 368D mm</li> </ul>
<b>Manual panel</b>	<ul style="list-style-type: none"> <li>• Pushbuttons with LED indicators</li> <li>• Programmable buttons</li> </ul>	<ul style="list-style-type: none"> <li>• Pushbuttons with LED indicators</li> <li>• Programmable buttons</li> </ul>
<b>Other options</b>	<ul style="list-style-type: none"> <li>• Audible/tactile drivers</li> <li>• Secret sign drivers</li> <li>• Enhanced lightning protection</li> </ul>	<ul style="list-style-type: none"> <li>• Audible/tactile drivers</li> <li>• Secret sign drivers</li> <li>• Enhanced lightning protection</li> </ul>
<b>Approvals</b>	<ul style="list-style-type: none"> <li>• Functionality TR2500 / TR2523</li> <li>• EMC EN50293</li> <li>• Safety / environment HD638</li> <li>• Functional safety EN12675</li> </ul>	<ul style="list-style-type: none"> <li>• Functionality TR2500 / TR2523</li> <li>• EMC EN50293</li> <li>• Safety / environment HD638</li> <li>• Functional safety EN12675</li> </ul>
<b>RoHS and WEEE compliant</b>	✓	✓

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Commercial  
Service  
Supplier

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