Chameleon has been designed and developed as a versatile Outstation Unit for UTMC systems; capable of providing the interface to junction and pedestrian controllers under a variety of operational modes including, UTC, remote monitoring, MOVA or a mixture of different control strategies, providing an efficient and cost effective solution for traffic applications.

Using the latest technology to provide a robust and versatile platform for different applications, Chameleon contains a powerful processor enabling local control, detection and data processing. It also delivers a flexible approach to communications interfaces; operating over fixed line, wireless or hybrid communications infrastructures to ensure the most cost effective solution on a site by site basis.

Chameleon has an intuitive web-based user interface providing easy access to monitor, and configure the unit.
**Chameleon to controller connections**

Time saving options for data transfer from the host (controller) to the Chameleon is supported by three connection methods:

**Chameleon 3rd Party Interface (C3PI)**
A 3rd party interface enables the Chameleon outstation to obtain a range of remote monitoring data directly from the host controller's fault log. This solution removes the need for time consuming wiring as the wiring loom is replaced by an RS232 lead connected directly to the host controller’s central processing unit.

This facility is available for use with the Peek PTC-1® family of controllers, selected Siemens units (ST800, ST900, ST750) and the Microsense Sentinel controller.

**IFC Serial Interface (Peek TRX Specific)**
In cases were the host controller is a Peek TRX, the in-situ interface card can be connected via a 9 to 9 way lead direct to the Chameleon outstation. This enables the Chameleon to take information directly from the host controller inputs / outputs using a secured plug-in 9 pin lead. Using the 9 to 9 way lead enables installation time to be minimised and provides the benefits of secured plug-in connection points.

**96 bit wiring loom to input / output card**
For most applications, up to three digital IO cards can be fitted to the Chameleon outstation, each providing 32 input and 32 output connections. Connected to Chameleon using secure 32 pin plug connections, the 96 bit loom is then connected to the IO card of the host controller enabling direct monitoring of on-street equipment.

The Chameleon facilitates the easy replacement of legacy serial Peek OTU’s and Siemens Tele12 OTU’s by removing the requirement to re-terminate the existing cable looms by the provision of adaptor kits which make a significant saving in changeover time.

**I/O Interface for PTC-1**
Pre-assembled ribbon cables and adaptor PCBs enable Chameleon I/O boards to connect to the digital I/O and/or detector outputs.

**Communications interfaces**
With the ability to operate over fixed line, wireless or hybrid telecoms infrastructures, the Chameleon outstation ensures the robust data integrity requirements of a complex UTC control system are not compromised. Designed specifically with the needs of modern network based communications systems in mind, Chameleon supports a number of flexible and cost effective communications options.

IP through RS232 and IP through ethernet communications facilitating:
  - PSTN
  - GSM
  - Wireless ethernet
  - Fibre
  - ISDN
  - xDSL (which includes ADSL, SDSL and VDSL)
  - 3G

**UTMC**
Chameleon makes use of the published UTMC MIBs to control outstation equipment. To achieve this, a ‘MIB function’ to a standard UTC bit mapping file is used for all control and reply bits. This file is held as part of the Chameleon outstation configuration at the traffic management instation and is downloaded, along with the specific site configuration, to the Chameleon on power-up. Both UG405 and UTMC-29 MIB’s are supported.
Remote Monitoring

Chameleon will act as a Remote Monitoring Outstation in either UTC mode when connected to our Traffic Management System (TMS) or stand alone when connected to our Remote Monitoring Systems (RMS). Dial up, GSM or IP communications are supported, providing alarm and monitoring capability. Optional implementation of MOVA 6 is also available.

Key features

- UTMC/UG405 Compliant OTU supporting SCOOT
- Third party interface available
- Remote access to the controller’s command line interface from an Instation; including the ability to view the controller’s fault log
- Remote Monitoring Outstation (under UTC and RMS)
- MOVA 6 (2 or 4 Stream)
- Monitors site conditions and calls an Instation if configurable thresholds are exceeded
- Download and upload new plans, timetables and schedules
- Supports up to 96 inputs and 96 outputs
- Multi-site, configurable count facility
- Mode swapping by instation command or timetable
- Traditional OTU – supports the MCE0361 protocol for backwards compatibility
- Real time clock – synchronised from the Instation or other NTP server
- Open protocol communications
- Web-based user interface
- Timetables, plans & schedules may be downloaded onto the Chameleon to provide local UTC type control of connected controllers.

Chameleon® MOVA

- MOVA 6 for remote actuated control of up to 4 streams per Outstation
- Web-browser interface for efficient monitoring and commissioning
- Real time updating
- Multiple Stream information displayed simultaneously
- Comprehensive configuration downloaded from the Imtech RMS or TMS
- Engineer’s Terminal connection provided;
- Mode Fallback Facility enables the use of a single Outstation for MOVA and UTC operation.

Hardware description

The Chameleon hardware consists of the following core components:

- An uninterruptible power supply (enabling notification of power fail)
- A CPU card running embedded Linux
- Up to three Input/Output cards each supporting up to 32 inputs and 32 outputs
- A 3U high, 19” rack, which can also be used to house other units
- Optional Lamp Monitoring Unit (LMU) facilitates extensive lamp monitoring capabilities.

Environmental credentials

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<th>Elexon Codes</th>
<th>Watts</th>
<th>Annual kWh</th>
<th>CO₂ kg pa</th>
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