HADRON TRAFFIC CONTROLLER

QTC

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QTC ADVANCED TRAFFIC CONTROLLER – THE NEW GENERATION TRAFFIC CONTROLLER

THE LATEST GENERATION IN TRAFFIC CONTROL USING THE HIGHLY RELIABLE HADRON TRAFFIC CONTROLLER. IT IS AN ADVANCED DESIGN, WITH UNSURPASSED RELIABILITY FROM THE ISO9001 ACCREDITED QTC DESIGN TEAM AND MANUFACTURING FACILITIES.

OVERVIEW

- **Capacity**
  The HADRON controller is fully compatible with the latest SCATS ®. Designed to control up to 32 Signal Groups, it also has up to 48 integrated loop detector channels and up to 48 external inputs. It can be easily interfaced to video detection systems. Flexible to any type input device.

- **Standards**
  Fully compliant to Specification TSC/4 from Roads and Traffic Authority (RTA) of NSW, Australian and International Standards.

- **Multiple Processors**
  Providing dual conflict monitoring for additional safety each module is controlled by its own microprocessor.

LOGIC RACK SIZES

Multiple sizes are available ranging from as little as 4SG all the way up to 32SG, in increments of 4SG.

From 16 up to 48 loop detectors plus from 16 up to 48 external inputs.

TRAFFIC CONTROL

The HADRON Traffic Controller is designed to be compatible with the latest SCATS ® generations. New releases can be upgraded on site.

RAMP METERING

Full application for Ramp Metering can be achieved with the HADRON Traffic Controller.

Ramp Metering is based on the data collection using loop detectors.

ROAD SITE PROCESSOR

1. Traffic Data Collection

   › Speed

   › Volume

2. Incident Detection

LANE CONTROLLER

- All lane changes are protected by conflict matrix

- Lamp Monitoring for enhanced safety

SAFETY AND DEPENDABILITY

1. Monitored MTBF $>$ 80,000 hours

2. Conflict Monitoring

   › Conflict checking BEFORE Lights displayed

   › Lamp Drive vs Lamp Status verification

   › Conflict checking of the Lights displayed

   › Last RED detection

   › Independent (secondary) Conflict Monitoring

3. Lamp Monitoring

   › Will operate with most lantern types automatically

   › Lamp failure monitoring (all lantern types)

   › Reports REAL power

4. SCATS ® communications options

   › Protocols supported (user field configurable)

     • Original

     • HDLC

   › Leased Line

   › Dialup line

   › ADSL (IP based)

   › TCP/IP (IP based communication options support all protocols)

TECHNICAL SPECIFICATIONS

• Design and Manufactured under ISO 9001:2008

OUTPUTS (SIGNALS)

• Up to 8 Modules of 4 groups each
  (12 Aspects i.e. 3 Aspects per group)

• Aspect drive capability up to 5 Amps

• Fuse protection 8A HRC

• Aspect power measurement resolution 0.5W

• All aspects voltages and currents measured simultaneously

• Aspect voltages individually set as per Aspect (channel)

• Load Handling PF 0.95 leading (capacitive) to 0.6 lagging (inductive)

OUTPUTS (AUXILIARY)

• Output – Wait Indicators Drives

• Open Collector Outputs, Active Low with flyback diode
  to +24V rail

• 300 Ohm minimum load resistance

• 24V DC Supply, 1 Amp current limited (total from module
  including Daily Event Output)

OUTPUT – DAILY EVENT DRIVE

• Open Collector Output, Active Low, with flyback diode
  to +24V rail

• 75 Ohm minimum load Resistance

• 24V DC Supply, 1 Amp current limited
  (total per module including Wait Outputs)

INPUTS

• Up to 3 Modules
  (16 or 32 inputs with Wait indicator and Daily Event drives each)

• External contact Closure Nominal 32V AC 10mA

• Operational Voltage Range 24 to 40 V AC

• Operational Frequency Range 48 to 52 Hz

• Internal Input Loading 3,300 Ohms to 32 V AC Supply

• Internal Input Loading >100K Ohms
  (protection circuitry Triggered)

• Protection Circuit Trigger 50V AC

SPECIAL FACILITIES MODULE

• Up to 24 Special Purpose Inputs (SPIP's) external contact
  closure Nominal 32V AC or 24V DC (external supply)

• Up to 24 Open Collector Outputs (SPOP's) active Low with
  fly-back diode +24V rail
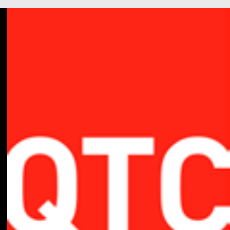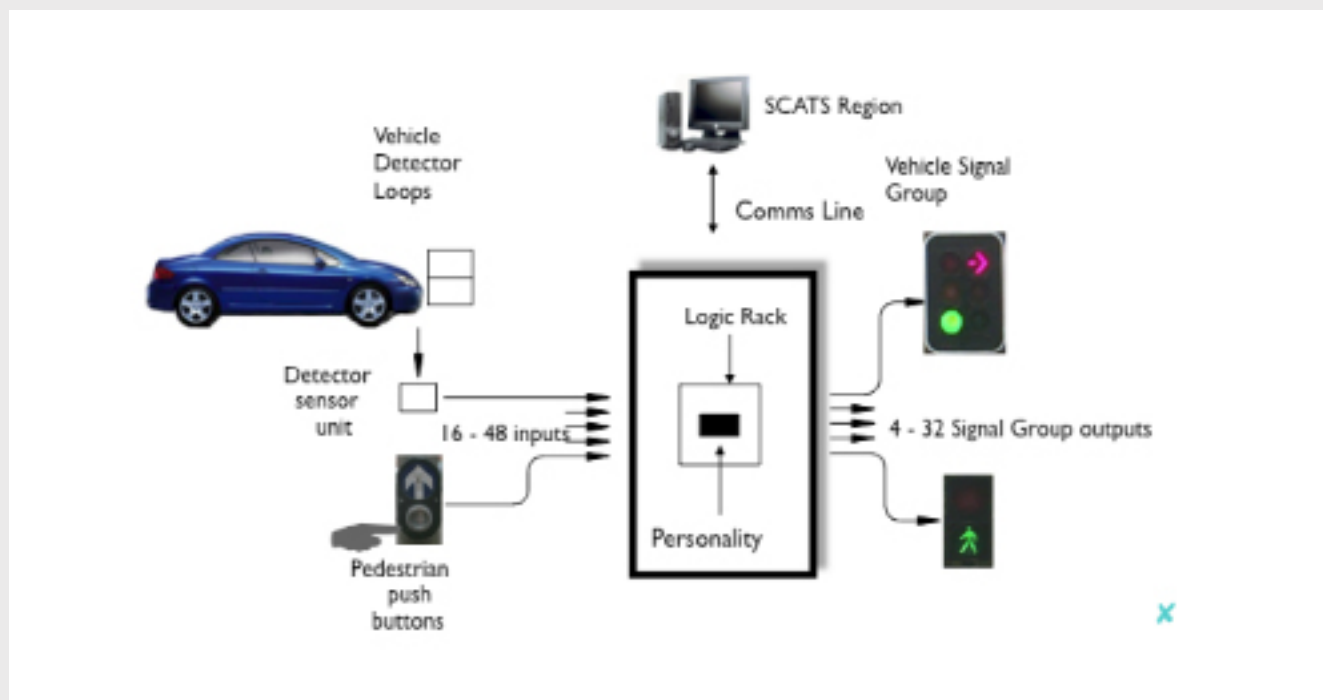
SPECIFICATIONS

ELECTRICAL

Mains Voltages	110, 220, 230, 240, V AC +10/-20%
Mains Frequency	50/60 Hz
Mains Interruptions	<100 msec, continue operation, otherwise re-start

PACKING

Weight (Standard Cabinet)	80kg
Volume (Standard Cabinet)	0.58m3
Weight (Special Cabinet)	50kg
Volume (Special Cabinet)	0.25m3

ENVIRONMENTAL

External Temperature	-30 Deg C to +50 deg C
Internal Temperature	+70 Deg C
Relative Humidity	95% (non condensing)
Solar Radiation	1kW/m2
EMC	AS4251.1 (Emission) AS4251.1 (Immunity)
Safety	AS 60950 part 1
Mechanical	IP54, Vibration 60068-2-6 Fc, Bump 60068-2-29 Eb
Standard Dimension	1443mmH x 785mmW x 415mmD
Special Cabinet (Up to 8SG)	1155mmH x 535mmW x 370mmD