

Opal 2

DATA SHEET

Models

Opal 2 Turbine Annunciator is available in 2 variations:

Opal 2 Annunciator

Remote Display and Electrical Overspeed Protection

Opal 2 Annunciator with Monitoring

Remote Display and Electrical Overspeed Protection with Turbine Monitoring



Description

Si-TEC (Smart Integrated Turbine & Engine Control) is the world's only digital governor fully integrated with an automatic synchroniser and kW / kVAr control, and was developed by Dawson Technology Pty Ltd in 1991, which now operates under the name of Heinzmann Australia Pty Ltd as part of the HEINZMANN Group.

With more than 4000 systems now in operation globally, the Si-TEC *Xtend* control provides a further enhancement of this already successful product.

The Opal 2 Annunciator is typically used in conjunction with Si-TEC *Xtend* CGC control module for steam turbine generator applications including power stations, sugar mills, paper mills, process plants, refineries, etc..

Key features

Remote display of Si-TEC *Xtend* CGC (via CAN bus)

Electrical overspeed protection function, with overspeed test sequence (via keypad)

Metering of essential generator parameters and turbine speed

Temperature metering (via temperature scanner module)

Turbine monitoring (including inlet pressure, exhaust pressure, etc.)

Range of alarm functions and logic status

Easy navigation of parameters via keypad (with Opal, CGC, etc.)

Auto scroll function for temperature channel parameters

Features

- Remote display of the Si-TEC *Xtend* control (via CAN bus interface), and designed for mounting on system control panel. A '4-line' LCD screen allows operators to view actual and reference values of the Si-TEC *Xtend* CGC control. Also includes specific menu keys on the "Generator" keypad.
- Turbine overspeed protection. The overspeed protection feature is independent of the Si-TEC *Xtend* CGC control (via separate MPU speed sensor), and also includes a "Perform Overspeed Test" function, along with "Mechanical Overspeed Testing" feature.
- Metering of essential generator parameters that include generator "Voltage", "Frequency", "Real Power", "Power Factor" (lag & lead). This reduces the need for conventional meters and transducers.
- Metering of "Turbine Speed" as well as turbine and generator temperature (via Si-TEC Temperature Scanner) for integration of turbine monitoring
- Alarms (relay outputs) including audible, visual, pre-warn & shutdown. Status (discrete inputs) includes standard (turbine monitoring) as well as user selected functions.
- Turbine monitoring features including inlet pressure, exhaust pressure, lube oil pressure and control voltage. These are configurable via software or front keypad (password protected).
- Easy navigation of various devices (e.g. CGC, Opal, temp. scanner, etc.) through "Device Select" and navigation keys
- Auto scroll function for easy temperature viewing for up to 32 channels

Application range

Used with Si-TEC *Xtend* CGC control in sugar, mining and general industry, remote communities, hospitals and commercial buildings, marine & shipping, defence & telecommunications facilities, refining and petrochemical industry, as well as the oil & gas industry.

Inputs/outputs

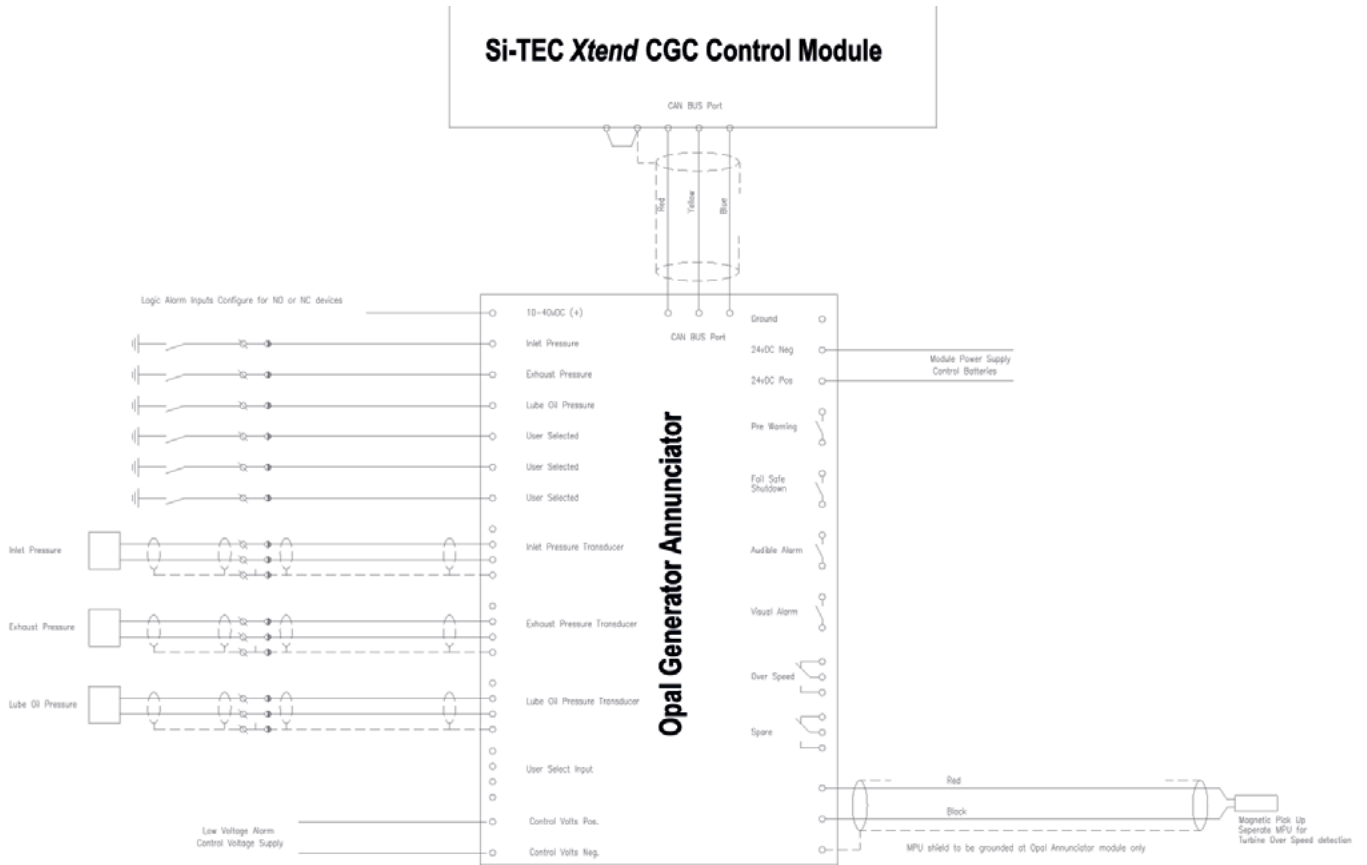
- Power supply: 24 Vdc. nominal (18 – 32 VDC)
- MPU input: Dedicated speed sensor for protection (200 Hz – 20 kHz range)
- Voltage input: For "Control Voltage" monitoring (18 – 32 VDC)
- Inlet pressure: 4 – 20 mA input (configurable)
- Exhaust pressure: 4 – 20 mA input (configurable)
- Lube oil pressure: 4 – 20 mA input (configurable)
- User selected input: 4 – 20 mA input (configurable)
- 6 x status (logic) inputs with + 24 VDC common. These include inlet pressure, exhaust pressure, lube oil pressure, and 3 x user selected inputs.
- 6 x alarm (relay) outputs including 2 x change-over relays (overspeed and spare) and 4 x NO contact relays (pre-warn, shutdown, audible and visual)
- CAN bus port: Up to 125m (250 kbps) loop length

Note: 4-20mA loop signals from PLC/DCS must be from the same source that supplies Opal and transducer. Otherwise, a signal line isolator must be used.

Keypad functions

- Common "MENU" keypad section include typical select and navigation keys, "Store", "+", "-", "Device Select" and "Engine/Turbine"
- "Generator" (Si-TEC *Xtend* CGC) keypad menu functions include "Home", "Go To", "Access", "Control", "Station", "Generator", "Help", "Alarm", "Actuator" & "Peak Hold"
- Common keypad functions "Silent Keypad", "Bump", "Auto Scroll" and "Reset"
- "Perform OST" (overspeed test function with password protect) and "Override OST" (for mechanical overspeed testing)

Opal Generator Annunciator Interface



Opal physical dimensions (mm) - front & side view

