



closing the loop on thermal solutions

ISO 9001 REGISTERED COMPANY

www.durexindustries.com

HALO® SLC and SENTINEL® Semiconductor Gas and Pump Line Heating Functional Safety System

HALO® SLC Temperature and Safety Limit Controller

How controls should be done now and in the future. Integrated Functional Safety Control (IFSC) of both the process and safety limit control needs of thermal system. Utilizing a Single Hybrid Microprocessor and software specifically designed for Class B Functional Safety and Control.

Durex Industries' *HALO SLC* process and safety temperature controllers are an integrated thermal solution combining temperature control, safety high limit control, heater current sensing, visual multicolored alarm indication, high/low temperature alarm, digital I/O, Independent Graphical User Interface (GUI), and RS 485/Modbus® communications. The *HALO SLC* controller represents a new convergence of technologies that improves thermal system safety, control and performance while substantially reducing costs of ownership.

A superior thermal solution for semiconductor applications.

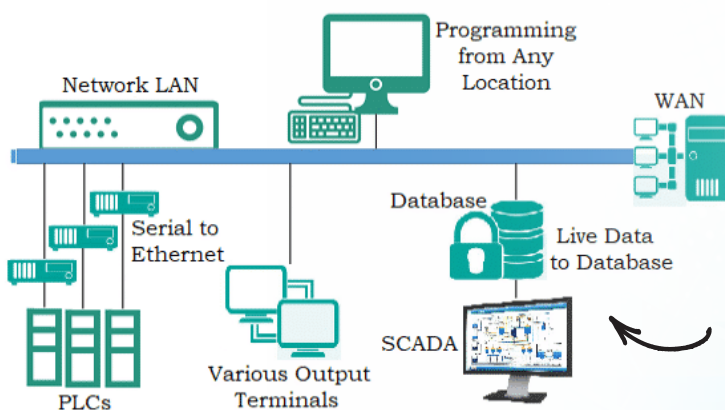
One *HALO* temperature controller can monitor the performance and control the temperature of multiple heaters with up to 10 amp resistive loads. Independent current sensor monitoring of heater load provides engineers with a visual *HALO* indication of a heater or wiring failure.



*Control where you need it — at the source.
Cost effective communications to
access the data you need.*



SENTINEL®



HALO SLC - Dual Modbus Ports

Allows local communication to local area network such as tool HMI (Human Machine Interface) and also connect separately to wide area network such as protocol gateway (Ethernet/IP, ETHERCAT) or SCADA (Supervisory Control and Data Acquisition).

HALO® SLC Features and Benefits

HALO 360° Visual Alarm Indication

Visual alarm indication in remote location. RGB LEDs for color differentiating process events and alarms.

Graphical User Interface (GUI)

Easy set up and monitoring of system parameters

Integrated 10 Amp Power Switching

Enables thermal systems with up to 10 amps of parallel wired heaters

Multiple Alarm Colors at Your Command!



Integrated Over Temperature Limit

De-energizes heaters if over temperature event occurs

Integrated High and Low Current (I) Sensor

Monitors heater health of individual or parallel wired heaters up to 10 amps

Independent Process and Alarm Sensor Inputs

Accurately measures process temperature and monitors heater health

High/Low Temperature Alarm Relay

Switch closure for external alarm device

Selectable Temperature Control Algorithms

Stable process temperature control

Ramp/Soak Programming

Programs up to 8 time/temperature process steps

Agency Approvals cUL/CE (pending)

Universal Mounting Bracket

Flexible vertical or horizontal mounting options

Hybrid Functional Safety Processor

Allows for a compact and cost saving method for achieving Class B Functional Safety.

Safety and Monitoring

Robust Operations

*HLVD *WDT
*DMT

Class B Safety

*Memory Clocking
*System CPU
*GPIO *Analog

Mobilize and maximize your control power with HALO!



HALO Graphical User Interface (GUI)

HALO® Specifications

- Power: 85 to 240 VAC, 50/60 Hz
- Input sensors: thermocouple Type K (programmable option Type J)
- Set-point Temperature range: 0 to 700° C
- Heater relay: 10 amp resistive Hybrid SSR/EMR relay @ 240 VAC
- Safety Limit Temperature Relay: 10 amp Resistive
- Low temperature alarm relay: 2 amps resistive at 30-240 VAC/VDV, Form A
- Current (I) sensing: 10.99 amps maximum
- Ambient temperature: 0 - 60°C

