



PRODUCT DATASHEET

GENESIS DUO™

DUAL-POINT CONTROL AND MONITORING

APPLICATION

Thermon Genesis Duo is a temperature controller, and a monitoring solution specifically designed for industrial heat tracing applications. The Duo provides control and monitoring capabilities for up to two heat tracing circuits supporting inputs from up to 4 RTDs per circuit. The unit can also be configured to control and limit with dedicated RTD inputs for the limiter channel. The Duo has a 4.3" glove touch capable LCD display with a light ring for visual indication. Being a native device in the Genesis Network, no additional hardware is required to communicate with Thermon's state-of-the-art supervisory and management platform.

PRODUCT FEATURES

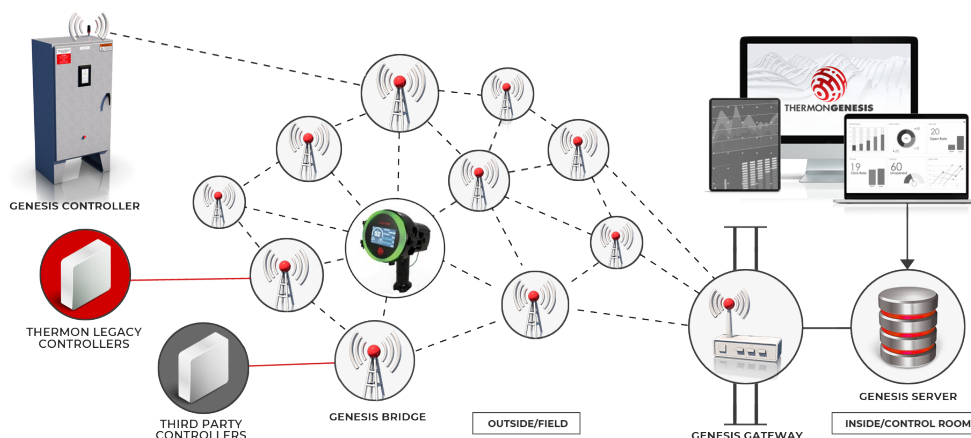
Efficient Configuration and Operation: With the glove touch capable 4.3" LCD, operators have local access to all settings and readings under any conditions. Once connected to the Genesis Network, multiple Duos can be managed remotely from a centralized location for maximum efficiency of operations at scale.

Improved Control Methods: The Duo utilizes multiple control methods, including On/Off, Ambient On/Off, On/Off with Soft- Start, Proportional and features the upgraded Ambient Proportional-Mechanical control that employs energy savings with the mechanical relays.



Upgraded Communications: The Duo is Genesis Network native, supporting wireless mesh connectivity as well as a wired ethernet option. The Duo can also optionally be connected directly to any plant's DCS system via Modbus RTU/ASCII. Using the same memory map as the TCM2, upgrading to Duo will be seamless.

High Temperature Limiter: The Duo can be configured as a single channel with a high temperature limiter. The high temperature limiter functionality is independent and has dedicated RTD inputs. The Duo, when enabled with the limiter function, meets the requirements of IEC/EN/UL/CSA 60079-30-1 for controlled design to limit energy to the heat trace in explosive atmospheres.



Genesis Network

The Thermon **Genesis Network** consists of a control room server, a gateway, and a collection of field deployed bridges/nodes that form a wireless mesh communications network. Alternatively, the network can be made via a traditional wired Ethernet network. The **Genesis Network** connects all heat trace panels and controllers to the control room and gives visibility of all assets from a single dashboard and user interface that can be accessed from any browser.



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ORDERING INFORMATION

Part Number	Model Code	Description
816011	GN-D-S-S-T-C-Z-XP	Genesis Duo w/LCD, Current Monitoring (2 SSR) + Pipe Mount Kit
816012	GN-D-S-S-T-C-Z-WP	Genesis Duo w/LCD, Current Monitoring (2 SSR) + Wall Mount Kit
816021*	GN-D-M-M-0-0-Z-XP	Genesis Duo w/o LCD, (2 Mechanical) + Pipe Mount Kit
816022*	GN-D-M-M-0-0-Z-WP	Genesis Duo w/o LCD, (2 Mechanical) + Wall Mount Kit
816051*	GD-D-S-S-0-C-Z-XP	Genesis Duo w/o LCD, Current Monitoring (2 SSR) + Pipe mount Kit
816052*	GD-D-S-S-0-C-Z-WP	Genesis Duo w/o LCD, Current Monitoring (2 SSR) + Wall mount Kit
816211	GN-D-D-0-T-C-Z-XP	Genesis Duo w/LCD, Current Monitoring (2 SSR), 2 pole, 1 circuit, 30 A + Pipe Mount Kit
816212	GN-D-D-0-T-C-Z-WP	Genesis Duo w/LCD, Current Monitoring (2 SSR), 2 pole, 1 circuit, 30 A + Wall Mount Kit
816221	GN-D-D-D-T-C-Z-XP	Genesis Duo w/LCD, Current Monitoring (2 SSR), 2 pole, 2 circuit, 15 A + Pipe Mount Kit
816222	GN-D-D-D-T-C-Z-WP	Genesis Duo w/LCD, Current Monitoring (2 SSR), 2 pole, 2 circuit, 15 A + Wall Mount Kit

* These units are without display and functional only with Genesis Network

CERTIFICATIONS



CANADA and US markings

Class I, Zone 2, AEx/Ex ec mc nC [ib Gb] IIC T4 Gc
 Zone 22 AEx/Ex tc IIIC T135°C
 Class I, Division 2, Groups A, B, C, D; T4
 Class II, Division 2, Groups FG, Class III; T135°C
 $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$; IP66

IECEX markings

IECEX ETL 22.0008X
 Ex ec mc nC [ib Gb] IIC T4 Gc
 Ex tc IIIC T135°C Dc
 $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$; IP66

ATEX markings

ETL22ATEX0127X
 II 3(2) G Ex ec mc nC [ib Gb] IIC T4 Gc
 Ex 3 D tc IIIC T135°C Dc
 $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$; IP66



RATINGS

Control and monitoring capacity	2 heat tracing circuits
Control Methods (Process & Ambient)	On/Off, On/Off w/ Soft Start, Proportional, Ambient On/Off or Ambient Proportional-Mechanical
Supply and load voltages	100-277 V~, 50/60 Hz
Maximum input current	1.5 A
Fuse rating	3.15 A
Heater Outputs (each circuit independently powered and switched)	
Input Voltage	100-277 V~, 50/60 Hz
Output Current	30 A (-40 °C to +55 °C) 25 A (+55 °C to +60 °C)
Ground fault measurement	up to 200 mA
Heater current measurement	up to 60 A
Voltage measurement (for power calculation)	up to 277 V
Power clamp function	Programmable from 20%-100%
Temperature input	RTD Type: 3-wire platinum 100 Ohm Up to 2 RTDs per circuit
Temperature control range	-60 °C to 500 °C (-76 °F to 932 °F)
Control band	Programmable in increments of 1 degree
Dry contact alarm relay	Two 277 V~, 500 mA or higher
Aux Input	Contact closure sensed
Self-test frequency	Programmable from 1 - 168 hours or Disabled
Communication	
Wired	RS-485 (Modbus RTU or ASCII) Ethernet (Genesis Network native device; for backhaul only)
Wireless	Mesh via 802.15.4 Radio
Mechanical & Operating Specifications	
Degree of Protection and Type Rating	IP66, NEMA 4X
Operating Temperature Range	-40 °C to +60 °C
Storage Temperature Range	-40 °C to +85 °C



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PRODUCT DIMENSIONS

