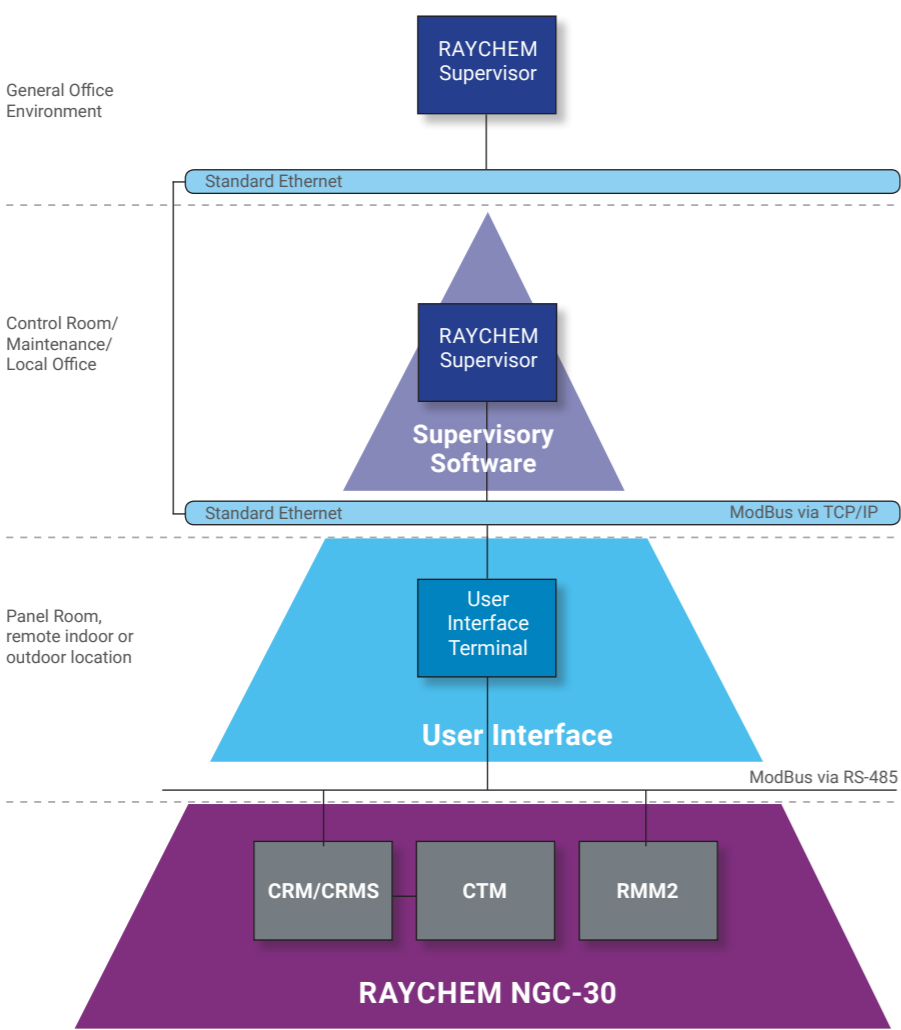


# The RAYCHEM NGC-30 System Overview

**THE NVENT RAYCHEM NGC-30 IS AN ADVANCED ELECTRONIC MULTIPPOINT CONTROL, MONITORING AND POWER DISTRIBUTION SYSTEM FOR INDUSTRIAL HEAT-TRACING APPLICATIONS.**

Temperatures, ground-fault currents, operating currents and other valuable information reflecting the integrity of the heat-tracing circuit can be monitored and communicated to a central location, to the right person at the right time. The information is visible via the User Interface Terminal with touch screen technology or via the Client-Server software application RAYCHEM Supervisor.

This system is an upgrade to nVent very successful MoniTrace-200N system. It provides a state-of-the-art user interface and an opportunity for existing 200N installations to benefit from the new features of the RAYCHEM Supervisor software as well as the option to add circuits with ground-fault monitoring and many other features.



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Electronic multi-circuit heat-tracing control, monitoring and power distribution system

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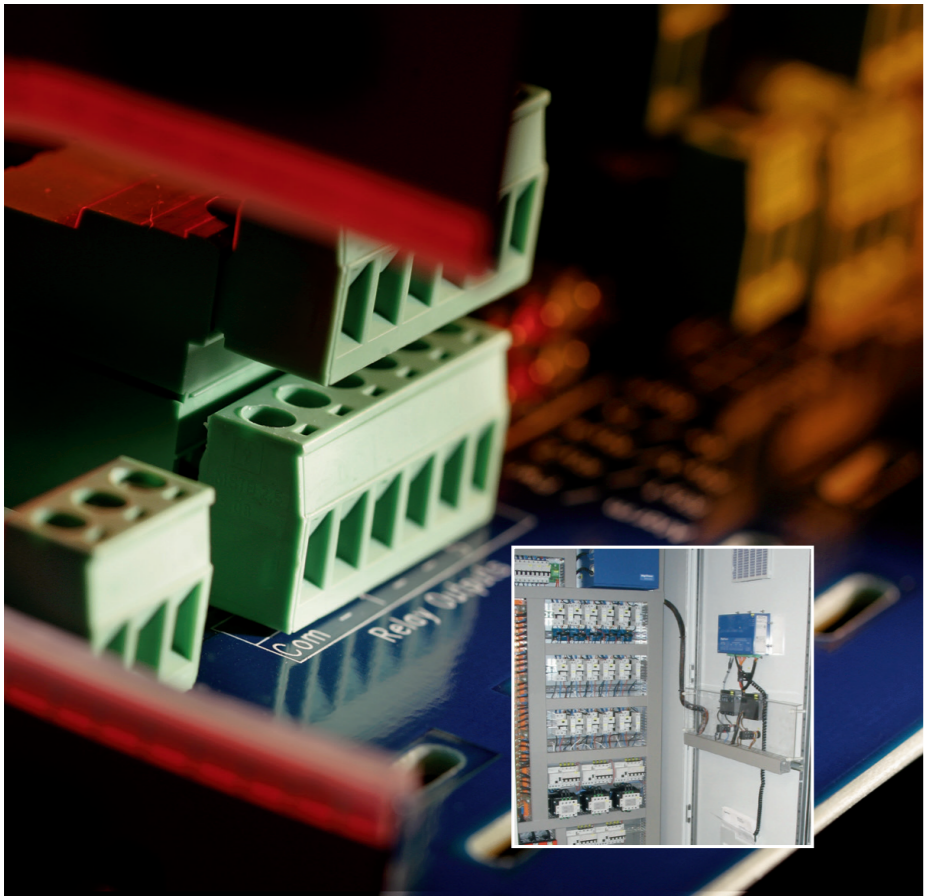
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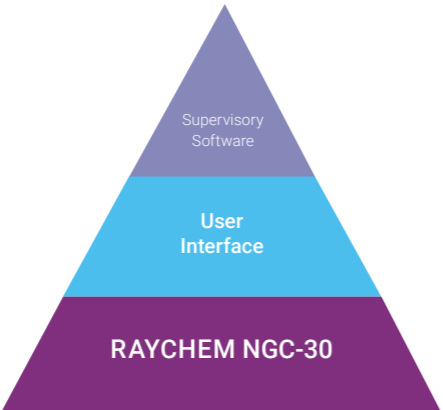
# nVent RAYCHEM NGC-30

RAYCHEM NGC-30 IS AN ADVANCED ELECTRONIC MULTIPOINT CONTROL, MONITORING AND POWER DISTRIBUTION SYSTEM FOR INDUSTRIAL HEAT-TRACING APPLICATIONS FOR UP TO 260 CIRCUITS.



Central control and monitoring has become increasingly important for industrial heat-tracing installations. The reduction in the number of on-site maintenance personnel coupled with the demand for safe and reliable operation has increased the need for centralised access to critical information about the integrity of heat-tracing systems. For improved production quality and higher yields, an increased number of circuits need to be controlled while temperature bands required become narrower. A centralised control and monitoring system offers the benefits of monitoring and changing parameters from a single location while maintaining tighter process temperature controls. The RAYCHEM NGC-30 control system has been designed to meet these objectives. Temperatures, ground-fault currents, operating currents and other valuable information reflecting the integrity of the heat-tracing circuit are monitored and communicated to a central location - to the right person at the right time.

Using the RAYCHEM NGC-30 control system, the wiring cost of temperature sensors can be reduced significantly, as it fully supports a distributed architecture. Status, upsets and faults in the heat-tracing system are reported to the user with clear messages and alarms speeding maintenance and recovery. The alarms and status information are displayed on the nVent RAYCHEM User Interface Terminal (UIT) or remotely using nVent RAYCHEM Supervisor software application.



RAYCHEM Supervisor supervisory software provides the capability to remotely configure the control systems, monitor status and alarms, and offers other advanced features such as data logging, trending, recipes and batching. It provides fully configurable user access and rights levels while providing the flexibility of control access from any remote location anywhere in the world. The RAYCHEM NGC-30 control and monitoring system complements any and is true to nVent's corporate commitment "We manage the heat you need".



## RAYCHEM NGC-30 FEATURES

The RAYCHEM NGC-30 complements Heat Management Systems with the following features:

- Control and monitoring of up to 260 circuits via multiple control algorithms; ON/OFF, ambient sensing, PASC (Proportional Ambient Sensing Control) and proportional control if used with solid-state relays
- Monitor and alarming: Temperatures, ground-fault currents, operating currents and voltages
- State-of-the-art User Interface Terminal with touch screen technology
- Central monitoring and configuration via client-server software RAYCHEM Supervisor
- Temperature input and control output modules can be placed at most convenient location (distributed architecture)
- Various levels of access for different user groups
- Fully configurable alarms
- Automatic heat-tracing system integrity checks and many more features

## RAYCHEM NGC-30 BENEFITS

- Selection of most appropriate control mode for each circuit
- Central status overview and access to all parameters of the entire heat-tracing installation (temperatures, alarms etc.)
- Ease of use by graphical user interface and state-of-the-art technology
- Significant cost savings through distributed architecture, reduced RTD wiring
- Heat-tracing control becomes integral part of Heat Management System
- Detailed problem reporting decreases maintenance time
- Data logging for trending, fault finding and other analysis leading into predictive maintenance
- Less paper by integrating documentation and drawings into Supervisory Software



## AVAILABLE AS A COMPLETE CONTROL, MONITORING AND POWER DISTRIBUTION SYSTEM

nVent offers the RAYCHEM NGC-30 as a complete solution, where the control system is already fully integrated into engineered control and power distribution panels. Using standard industrial enclosures, specific care has been taken to design the systems to highest safety standards by enabling optimum access for easy maintenance, as well a clear layout of the functional blocks and terminals.

The systems are pre-wired in the factory, already tested and will only need some adjustments of the settings on site. The panels are available in various sizes (number of circuits/spares), types of control options and details for the panel configuration like circuit breaker size (MCB and individual circuit breakers), type of contactor (solid state or mechanical), position of the cabling entry and many other options. A RAYCHEM NGC-30 system can consist of multiple panels linked via a dedicated communication link where a master panel contains the User Interface Terminal (UIT).

Customers desiring to build their own systems, can use the individual components of the RAYCHEM NGC-30 and integrate them into their own power distribution panels.

## RAYCHEM SUPERVISOR SOFTWARE BRINGS IT ALL TOGETHER

The RAYCHEM Supervisor (DTS) software package provides a graphic interface for RAYCHEM NGC-systems. The software allows the user to configure and monitor various control and monitoring systems from a central location, alarms can be acknowledged and cleared, as well as other advanced features such as data logging, trending, recipes and batching.

Users can access all information from anywhere in the world, making RAYCHEM Supervisor a powerful management tool for the entire Heat Management System (HMS). The software supports multi-client and multi-server architecture and is based upon Microsoft's.NET architecture and SQL server, a proven enterprise-class database system.

## USER INTERFACE TERMINAL FOR EASY ACCESS ON SITE

The RAYCHEM User Interface Terminal (UIT) uses a state-of-the-art colour touch screen and allows convenient user control access to all heat-tracing circuits. The UIT, available as indoor and outdoor version, can be installed either in the power distribution panel or in a remote location (e.g. for best maintenance purposes). It provides the interface to the RAYCHEM Supervisor software (DTS) if used.



## RAYCHEM NGC-30 SYSTEM OFFERS MANY OPTIONS

The flexible system architecture of the RAYCHEM NGC-30 system allows different configurations.

Control by software in RAYCHEM User Interface Terminal (UIT):

- Up to 250 circuits per UIT
- Using Remote Monitoring Modules (RMM) providing the temperature input to the UIT
- Using Remote Modules for Control (RMC), to switch the contactors Set-up and monitoring by RAYCHEM User Interface Terminal (UIT), control by Card Rack Modules (CRM):
- Up to 260 circuits per UIT
- A CRM provides control functionality and temperature inputs for up to 5 circuits, once set up, they operate independently from the UIT for an increased system reliability
- Ground-fault and voltage monitoring is provided by the addition of Current Transformer Modules (CTM) and Voltage Module (CVM)
- If used with the Solid-State Card Rack Module (CRMS) and solid-state relays additional features are enabled like proportional control, current limiting and soft-start

A User Interface Terminal (UIT) can control various panels. For more technical details refer to the product literature of the RAYCHEM NGC-30 system.



## GROUND-FAULT MONITORING SIMPLIFIES MAINTENANCE

Ground-fault current monitoring offers a very good indication of water ingress or mechanical damage to heat-tracing systems.

A new feature in the RAYCHEM NGC-30 system offers continuously monitoring of ground-fault levels of every circuit. Increased ground-fault values and their reported status indicate potential maintenance or even failure issues and can be used to raise alarms long before an ELCB trips. The system identifies which branch circuit has the increased ground-fault current and action can then be taken before the circuit stops operating. This can significantly simplify maintenance activities.

