



**NRG: Solid state relays with real-time monitoring**

# Switches

# NRG series

## Digital solid state relays

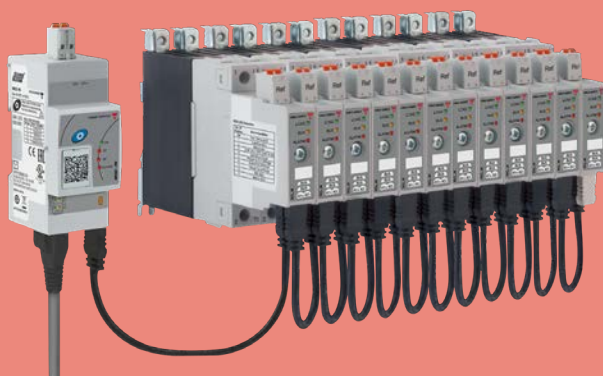
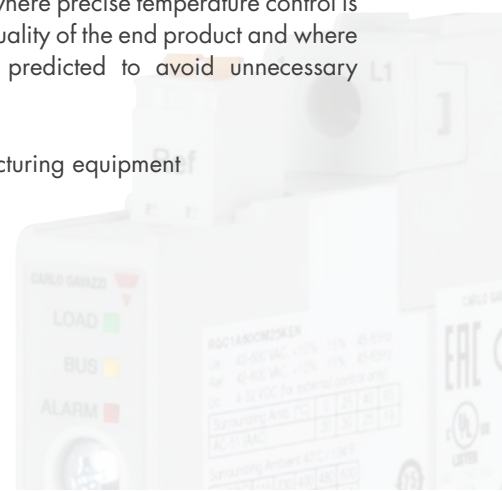
In order for machine builders to make informed decisions, solve urgent problems on short notice and develop machines that are more autonomous, data from the various components within the machine needs to be collected and analysed. The **NRG** has been developed to fit this purpose. Through the added communication interface, the solid state relays (SSRs) can exchange data with the machine controller in real-time. The switching of the SSRs is also controlled through this communication interface.

The NRG is a system that may consist of multiple bus chains. Each bus chain is made up of an NRG controller daisy chained to a number of SSRs. The NRG controller interfaces with the machine controller (or PLC) and is available in Modbus RTU, PROFINET and EtherNet/IP™.

### Applications

Any heating application where precise temperature control is crucial to guarantee the quality of the end product and where machine stoppages are predicted to avoid unnecessary downtimes:

- Plastic machinery
- Semiconductor manufacturing equipment
- Glass tempering



## Reduced unplanned downtime with real-time monitoring

### Features:

#### Switching

ON/OFF switching or % power control for the RG..Ns. Burst, Distributed or Advanced Full Cycle firing mode are possible with % power control. Phase Angle switching and Soft Starting are additionally available on the RGx1P.N variants.

#### Measurements

Read out of parameters such as voltage, current, frequency, power, energy consumption, SSR and Load running hours is available in real-time.

#### Diagnostics

Each RG..N on the bus is equipped with on-board diagnostics for systems, load or communication malfunction.

### Benefits:

#### Time and space savings

Less wiring and I/O modules are required with switching, monitoring and diagnostic capabilities via the communication.

#### Flexibility

Various firing modes are available to configure the most appropriate SSR switching mode. The % power control function saves computational power from the PLC.

#### Easy configuration

The NRG offers an auto-addressing function via the NRG Controller for a quick system setup.

#### Maximised throughput

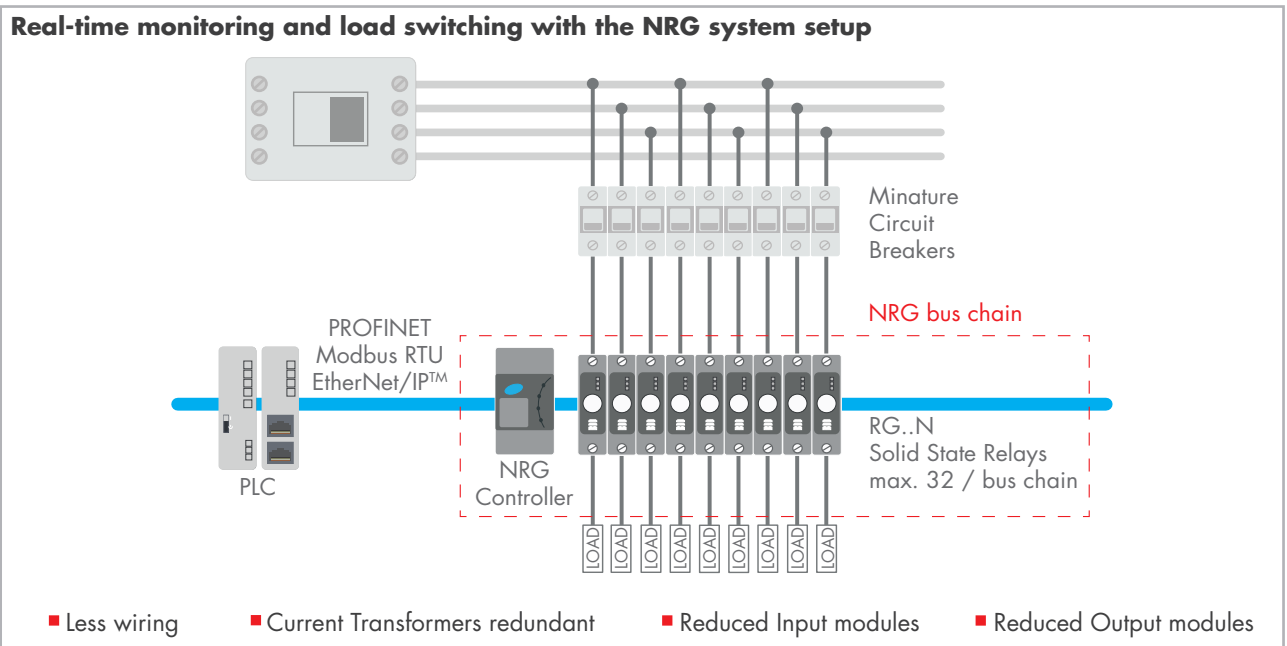
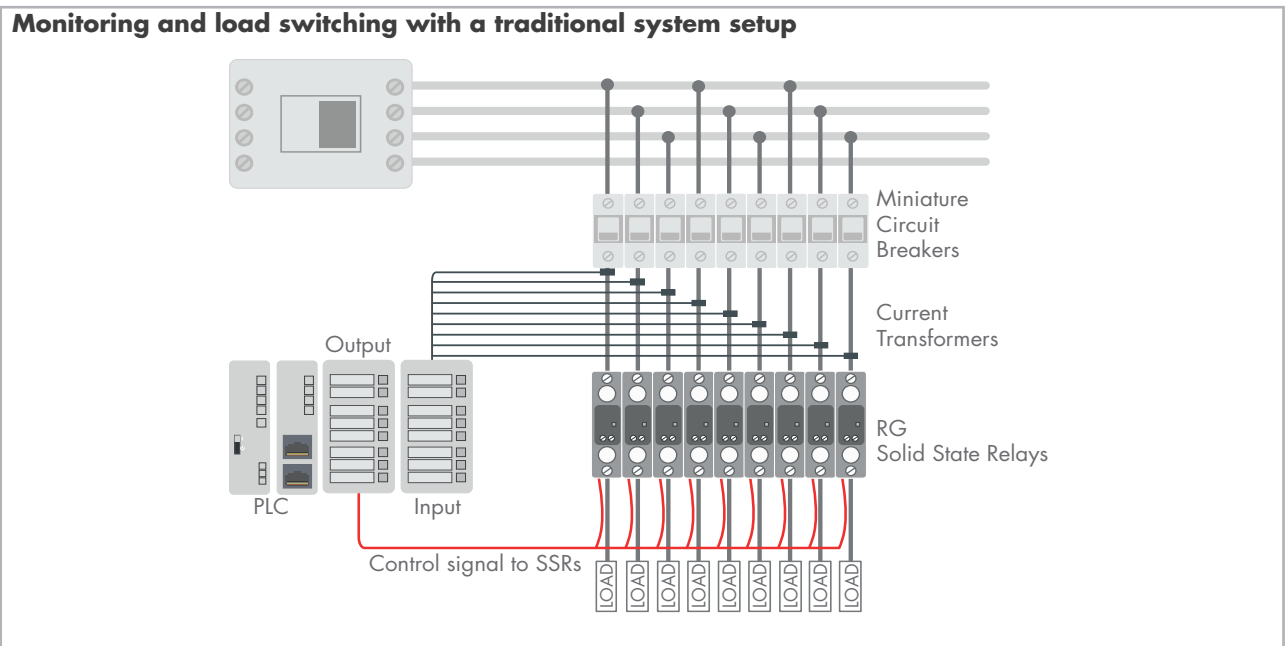
Possibility for predictive maintenance by analysing system parameters.

#### Higher quality end products

PLC can perform timely decisions for optimal process control through real time monitoring.



## Cost and space savings with the NRG series of solid state relays



## Selection guide

### NRG Controller

Interface	Modbus RTU	PROFINET	EtherNet/IP™
Reference	<b>NRGC</b>	<b>NRGC-PN</b>	<b>NRGC-EIP</b>

### NRG Solid state relays

Rating @ T <sub>A</sub> 40°C	25 AAC	30 AAC	37 AAC	43 AAC	65 AAC	50 AAC	90 AAC
w. heatsink	<b>RGCI X60CM25KEN</b>	<b>RGCI X60CM32KEN</b>	<b>RGCI X60CM32GEN</b>	<b>RGCI X60CM42GEN</b>	<b>RGCI X60CM62GEN</b>		
w./out heatsink						<b>RGS1 X60CM50KEN</b>	<b>RGS1 X60CM92YEN</b>

### NRG Internal BUS cables

Length	10 cm	75 cm	150 cm	350 cm	500 cm	
	<b>RCRGN-010-2*</b>	<b>RCRGN-075-2</b>	<b>RCRGN-150-2</b>	<b>RCRGN-350-2</b>	<b>RCRGN-500-2</b>	*Packed by 4 pcs.

X = 'A' for zero cross switching, 'P' for phase angle switching  
 Y = 'K' for output screw terminals, 'G' for output box clamp terminals  
 Further details are available on online data sheets at [www.gavazziautomation.com](http://www.gavazziautomation.com)

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