

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, EtherNet/IP™ and EtherCAT and Modbus TCP.

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 and RGC3P..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.

Versatility

Possibility to control 1-phase and 3-phase loads with a combination of 1-pole, 2-pole, and 3-pole SSRs

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.

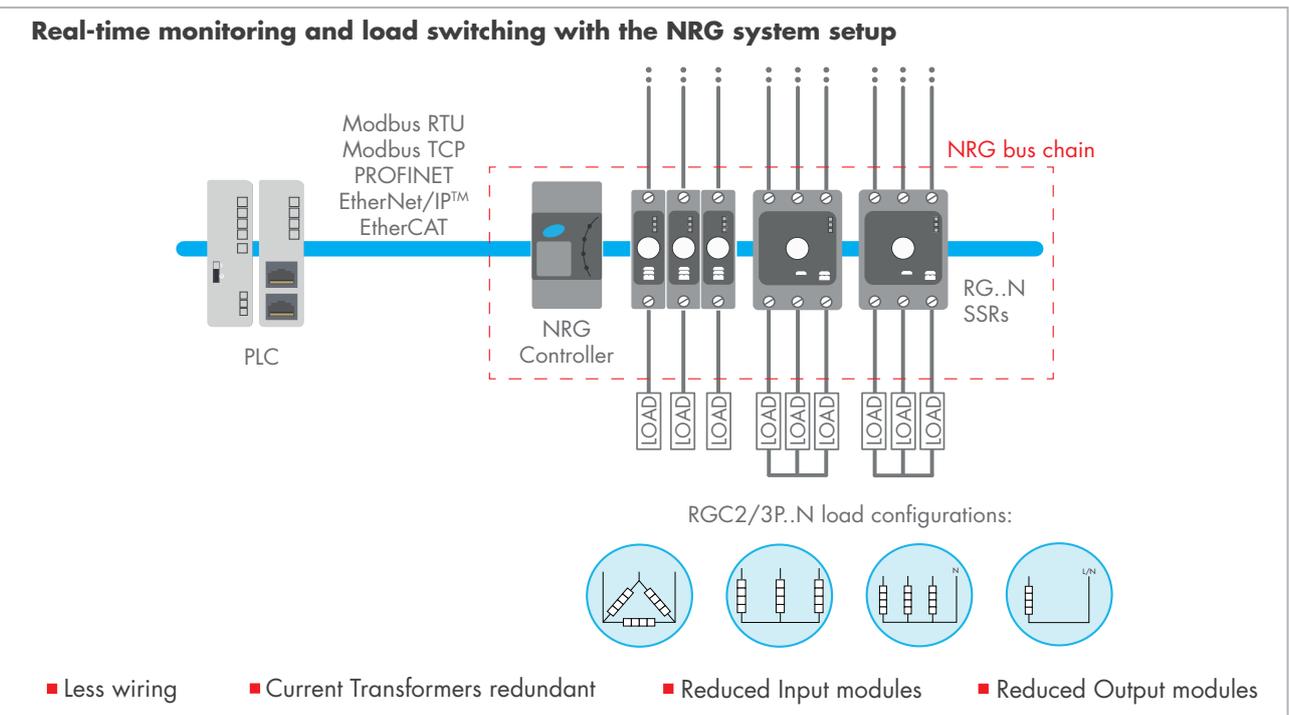
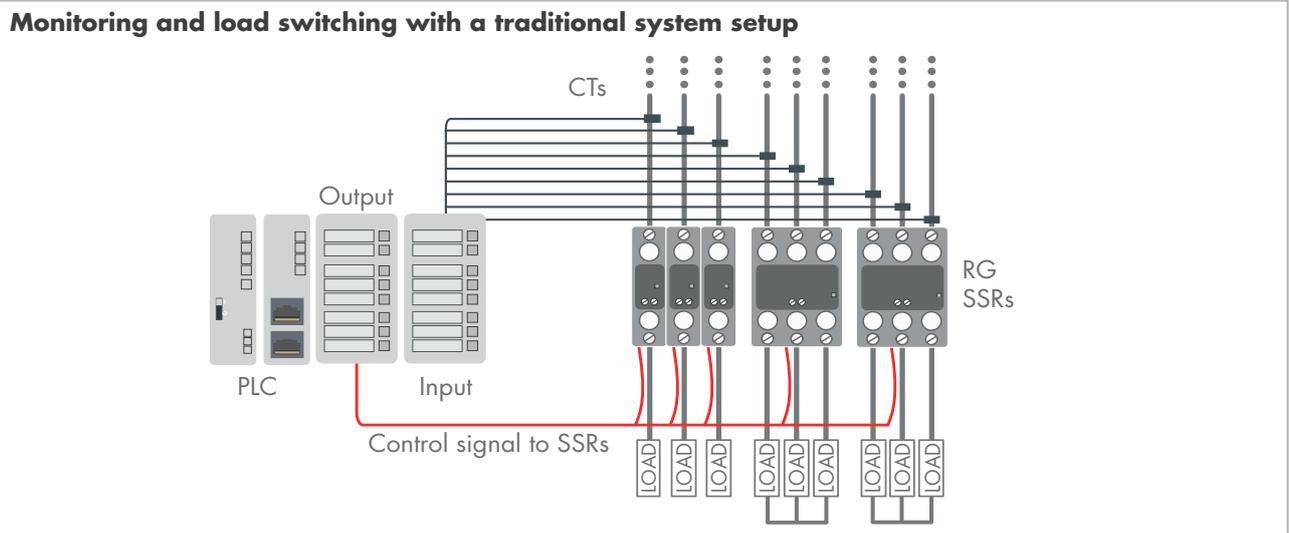
Higher quality end products

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



NB: CCC certification applicable only to RGx1..N

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



Selection guide

NRG Controller	Interface	Modbus RTU	PROFINET	EtherNet/IP™	EtherCAT	Modbus TCP		
	Reference	NRGC	NRGC-PN	NRGC-EIP	NRGC-ECAT	NRGC-MBTCP		
NRG Solid state relays	Rating	25 AAC	30 AAC	37 AAC	43 AAC	65 AAC	50 AAC**	90 AAC**
	1-pole switching	RGC1X60CM25KEN	RGC1X60CM32KEN	RGC1X60CM32GEN	RGC1X60CM42GEN	RGC1X60CM62GEN		
	1-pole switching						RGS1X60CM50KEN	RGS1X60CM92YEN
	Rating	20 AAC	25 AAC	30 AAC	40 AAC	65 AAC	75 AAC	
NRG bus cables	2-pole switching		RGC2P60CM25KEN		RGC2P60CM40GEN		RGC2P60CM75GEN	
	3-pole switching	RGC3P60CM20KEN		RGC3P60CM30GEN		RGC3P60CM65GEN		
NRG bus cables	Length	10 cm	25 cm	75 cm	150 cm	350 cm	500 cm	
	Reference	RCRGN-010-2*	RCRGN-025-2	RCRGN-075-2	RCRGN-150-2	RCRGN-350-2	RCRGN-500-2	*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
 ** RGS is the version without integrated heatsink

Further details are available on online data sheets at www.gavazziautomation.com

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