



**NRG: Solid state relays with a communication interface**

**Switches**

# NRG series

## Digital solid state relays

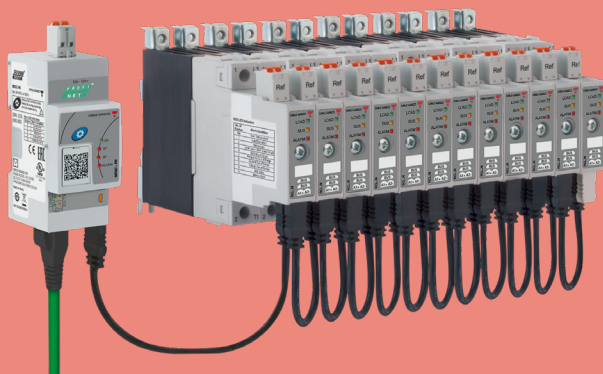
In order for machine builders to make informed decisions, solve urgent problems on short notice and develop machines that are more autonomous, data from the various components within the machine needs to be collected and analysed. The **NRG** has been developed to fit this purpose. Through the added 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 and PROFINET.

### 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.

#### 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

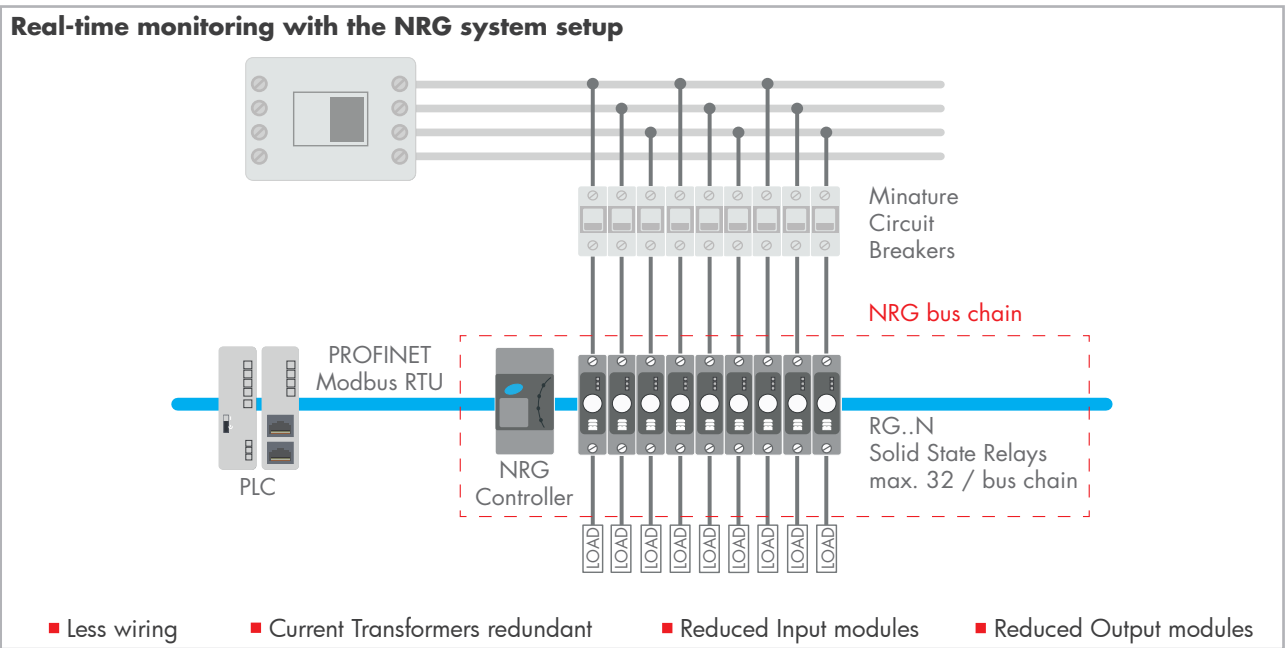
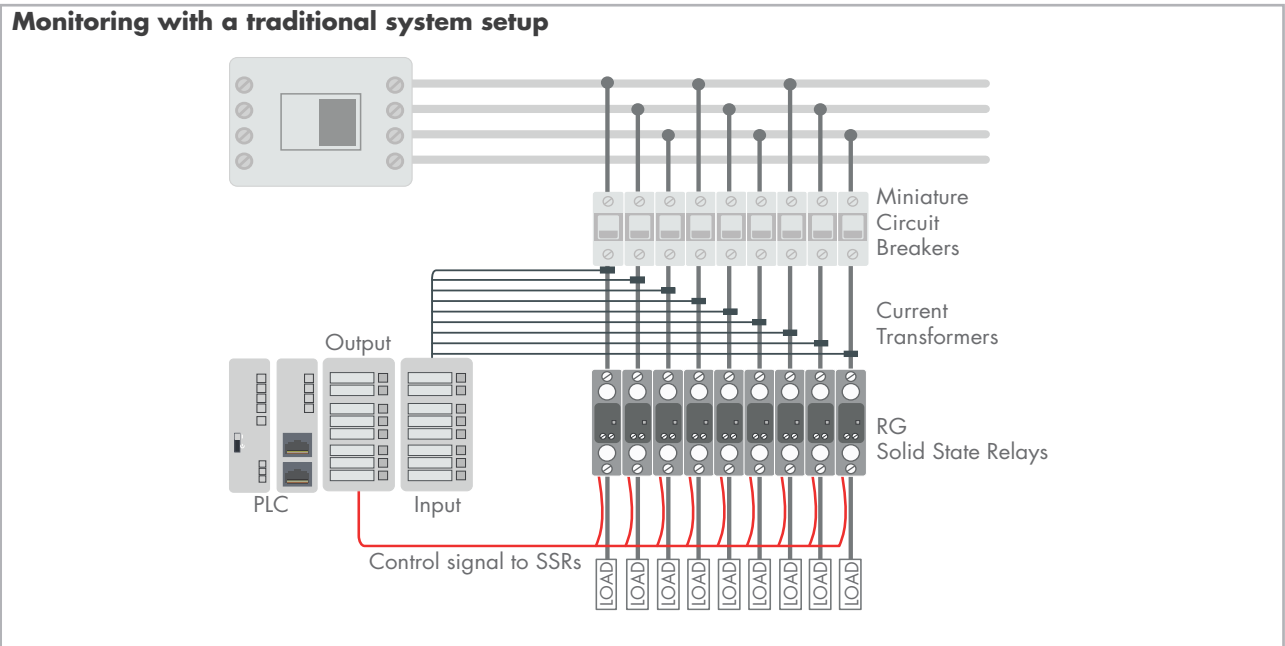
Possibility for predictive maintenance by analysing system parameters.

#### 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

Modbus RTU	<b>NRGC</b>
PROFINET	<b>NRGC-PN</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 A60CM25KEN</b>	<b>RGCI A60CM32KEN</b>	<b>RGCI A60CM32GEN</b>	<b>RGCI A60CM42GEN</b>	<b>RGCI A60CM62GEN</b>		
w./out heatsink						<b>RGS1 A60CM50KEN</b>	<b>RGS1 A60CM92XEN</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>		

X = 'K' for output screw terminals, 'G' for output box clamp terminals, \*Packed by 4pcs  
 Further details are available on online data sheets at [www.gavazziautomation.com](http://www.gavazziautomation.com)

## OUR SALES NETWORK IN EUROPE

### AUSTRIA

Carlo Gavazzi GmbH  
Ketzergrasse 374,  
A-1230 Wien  
Tel: +43 1 888 4112  
Fax: +43 1 889 10 53  
office@carlogavazzi.at

### BELGIUM

Carlo Gavazzi NV/SA  
Mechelsesteenweg 311,  
B-1800 Vilvoorde  
Tel: +32 2 257 4120  
Fax: +32 2 257 41 25  
sales@carlogavazzi.be

### DENMARK

Carlo Gavazzi Handel A/S  
Over Hadstenvej 40,  
DK-8370 Hadsten  
Tel: +45 89 60 6100  
Fax: +45 86 98 15 30  
handel@gavazzi.dk

### FINLAND

Carlo Gavazzi OY AB  
Ahventie, 4 B  
FI-02170 Espoo  
Tel: +358 9 756 2000  
myynti@gavazzi.fi

### FRANCE

Carlo Gavazzi Sarl  
Zac de Paris Nord II, 69, rue de la Belle Etoile,  
F-95956 Roissy CDG Cedex  
Tel: +33 1 49 38 98 60  
Fax: +33 1 48 63 27 43  
french.team@carlogavazzi.fr

### GERMANY

Carlo Gavazzi GmbH  
Pfnorstr. 10-14  
D-64293 Darmstadt  
Tel: +49 6151 81000  
Fax: +49 6151 81 00 40  
info@gavazzi.de

### GREAT BRITAIN

Carlo Gavazzi UK Ltd  
4.4 Frimley Business Park,  
Frimley, Camberley, Surrey GU16 7SG  
Tel: +44 1 276 854 110  
Fax: +44 1 276 682 140  
sales@carlogavazzi.co.uk

### ITALY

Carlo Gavazzi SpA  
Via Milano 13,  
I-20045 Lainate  
Tel: +39 02 931 761  
Fax: +39 02 931 763 01  
info@gavazziacbu.it

### NETHERLANDS

Carlo Gavazzi BV  
Wijkermeerweg 23,  
NL-1948 NT Beverwijk  
Tel: +31 251 22 9345  
Fax: +31 251 22 60 55  
info@carlogavazzi.nl

### NORWAY

Carlo Gavazzi AS  
Melkeveien 13,  
N-3919 Porsgrunn  
Tel: +47 35 93 0800  
Fax: +47 35 93 08 01  
post@gavazzi.no

### PORTUGAL

Carlo Gavazzi Lda  
Rua dos Jerónimos 38-B,  
P-1400-212 Lisboa  
Tel: +351 21 361 7060  
Fax: +351 21 362 13 73  
carlogavazzi@carlogavazzi.pt

### SPAIN

Carlo Gavazzi SA  
Avda. Iparraguirre, 80-82,  
E-48940 Leioa (Bizkaia)  
Tel: +34 94 480 4037  
Fax: +34 94 431 6081  
gavazzi@gavazzi.es

### SWEDEN

Carlo Gavazzi AB  
V:a Kyrkogatan 1,  
S-652 24 Karlstad  
Tel: +46 54 85 1125  
Fax: +46 54 85 11 77  
info@carlogavazzi.se

### SWITZERLAND

Carlo Gavazzi AG  
Verkauf Schweiz/Vente Suisse  
Sumpfstrasse 3,  
CH-6312 Steinhausen  
Tel: +41 41 747 4535  
Fax: +41 41 740 45 40  
info@carlogavazzi.ch

## OUR SALES NETWORK IN THE AMERICAS

### USA

Carlo Gavazzi Inc.  
750 Hastings Lane,  
Buffalo Grove, IL 60089, USA  
Tel: +1 847 465 6100  
Fax: +1 847 465 7373  
sales@carlogavazzi.com

### CANADA

Carlo Gavazzi Inc.  
2660 Meadowvale Boulevard,  
Mississauga, ON L5N 6M6, Canada  
Tel: +1 905 542 0979  
Fax: +1 905 542 22 48  
gavazzi@carlogavazzi.com

### MEXICO

Carlo Gavazzi Mexico S.A. de C.V.  
Circuito Puericultores 22, Ciudad  
Satelite  
Naucalpan de Juarez, Edo Mex. CP  
53100 Mexico  
T +52 55 5373 7042  
F +52 55 5373 7042  
mexicosales@carlogavazzi.com

### BRAZIL

Carlo Gavazzi Automação Ltda.  
Av. Francisco Matarazzo, 1752  
Conj 2108 - Barra Funda - São Paulo/SP  
Tel: +55 11 3052 0832  
Fax: +55 11 3057 1753  
info@carlogavazzi.com.br

## OUR SALES NETWORK IN ASIA AND PACIFIC

### SINGAPORE

Carlo Gavazzi Automation Singapore Pte. Ltd.  
61 Tai Seng Avenue #05-06  
Print Media Hub @ Paya Lebar iPark  
Singapore 534167  
Tel: +65 67 466 990  
Fax: +65 67 461 980  
info@carlogavazzi.com.sg

### MALAYSIA

Carlo Gavazzi Automation (M) SDN. BHD.  
D12-06-G, Block D12,  
Pusat Perdagangan Dana 1,  
Jalan PJU 1A/46, 47301 Petaling Jaya,  
Selangor, Malaysia.  
Tel: +60 3 7842 7299  
Fax: +60 3 7842 7399  
sales@gavazzi-asia.com

### CHINA

Carlo Gavazzi Automation  
(China) Co. Ltd.  
Unit 2308, 23/F.,  
News Building, Block 1,1002  
Middle Shennan Zhong Road,  
Shenzhen, China  
Tel: +86 755 83699500  
Fax: +86 755 83699300  
sales@carlogavazzi.cn

### HONG KONG

Carlo Gavazzi Automation  
Hong Kong Ltd.  
Unit No.16 on 25th Floor, One  
Midtown,  
No. 11 Hoi Shing Road, Tsuen Wan,  
New Territories, Hong Kong  
Tel: +852 26261332  
Fax: +852 26261316

## OUR COMPETENCE CENTRES AND PRODUCTION SITES

### DENMARK

Carlo Gavazzi Industri A/S  
Hadsten

### MALTA

Carlo Gavazzi Ltd  
Zejtun

### ITALY

Carlo Gavazzi Controls SpA  
Belluno

### LITHUANIA

Uab Carlo Gavazzi Industri Kaunas  
Kaunas

### CHINA

Carlo Gavazzi Automation (Kunshan) Co., Ltd.  
Kunshan

## HEADQUARTERS

Carlo Gavazzi Automation SpA  
Via Milano, 13  
I-20045 - Lainate (MI) - ITALY  
Tel: +39 02 931 761  
info@gavazziautomation.com



**CARLO GAVAZZI**  
Automation Components

*Energy to Components!*

[www.gavazziautomation.com](http://www.gavazziautomation.com)

