



NRG: Solid state relays with real-time monitoring

Switches

NRG series

Digital solid state relays

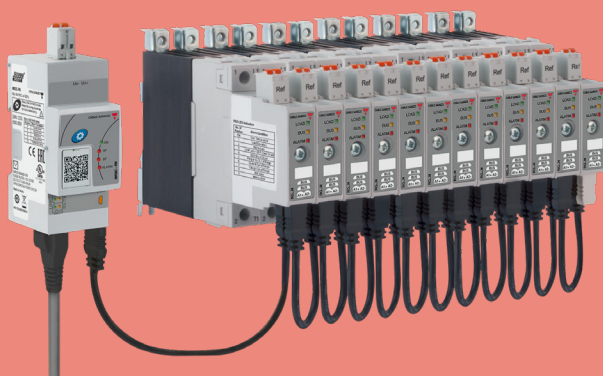
In order for machine builders to make informed decisions, solve urgent problems on short notice and develop machines that are more autonomous, data from the various components within the machine needs to be collected and analysed. The **NRG** has been developed to fit this purpose. Through the added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



EtherNet/IP™



EtherCAT®

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

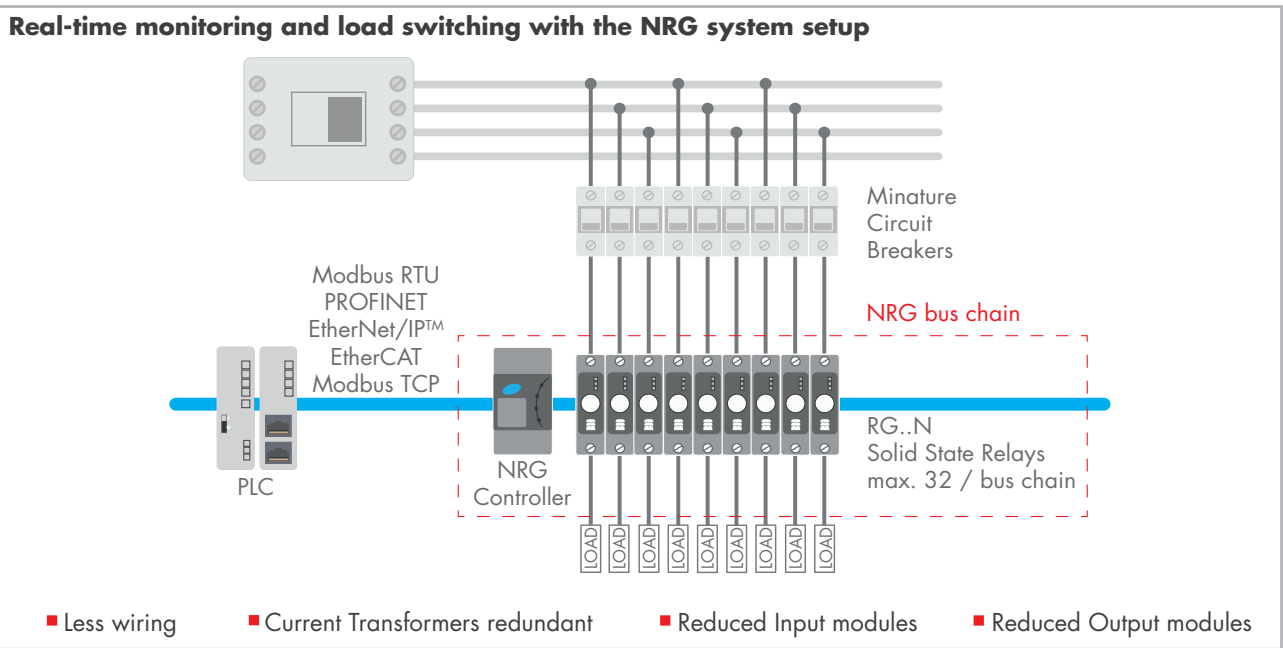
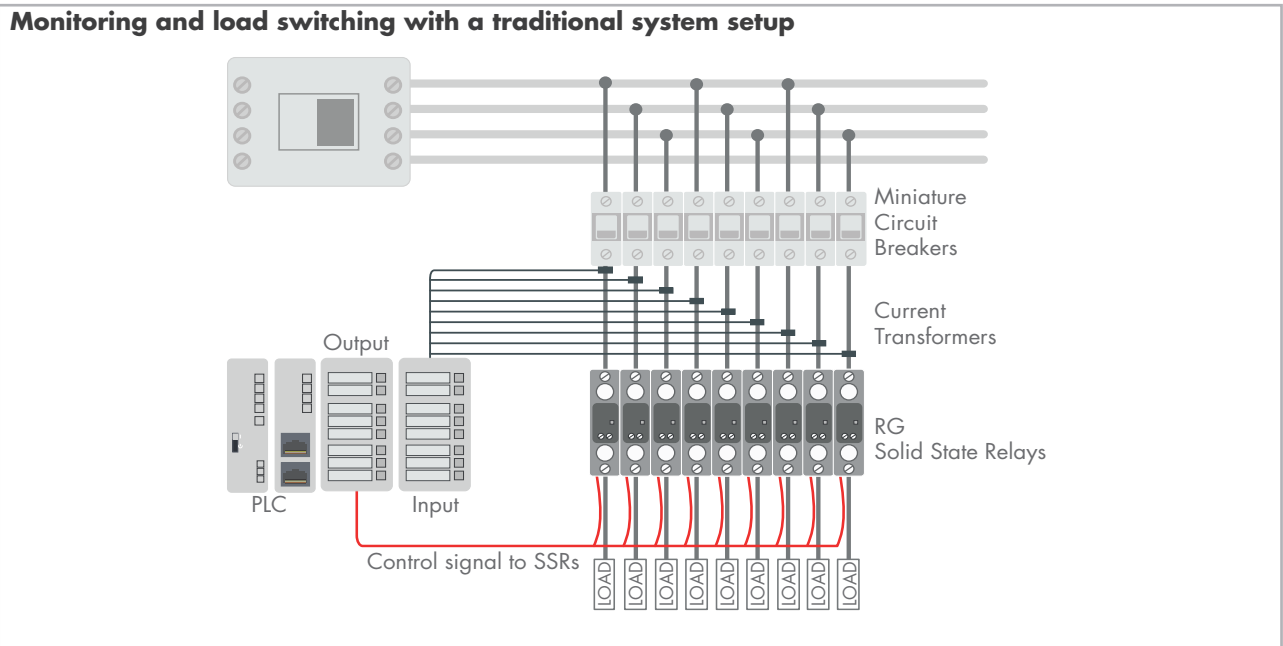
Possibility for predictive maintenance by analysing system parameters.

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™	EtherCAT	Modbus TCP	
Reference	NRGC	NRGC-PN	NRGC-EIP	NRGC-ECAT	NRGC-MBTCP	

NRG Solid state relays							
Rating @ T _a 40°C	25 AAC	30 AAC	37 AAC	43 AAC	65 AAC	50 AAC	90 AAC
w. heatsink	RG1X60CM25KEN	RG1X60CM32KEN	RG1X60CM32GEN	RG1X60CM42GEN	RG1X60CM62GEN		*Packed by 4 pcs.
w./out heatsink						RG51X60CM50KEN	RG51X60CM92YEN

NRG Internal BUS cables							
Length	10 cm	25 cm	75 cm	150 cm	350 cm	500 cm	
	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
 Further details are available on online data sheets at www.gavazziautomation.com

OUR SALES NETWORK IN EUROPE

AUSTRIA

Carlo Gavazzi GmbH
Ketzergasse 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
sales@carlogavazzi.be

DENMARK

Carlo Gavazzi Handel A/S
Over Hadstensevej 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 Parsgrunn
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 / 26261333
Fax: +852 26261316

TAIWAN

Carlo Gavazzi Automation Singapore
Pte Ltd (Taiwan Branch)
12F-3, No. 530, Yingcai Rd., West Dist.,
Taichung City 403518, Taiwan R.O.C.
Tel: 886 4 2258 4001
Fax: 886 4 2258 4002

OUR COMPETENCE CENTRES AND PRODUCTION SITES

DENMARK

Carlo Gavazzi Industri A/S
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Carlo Gavazzi Ltd
Zejtun

ITALY

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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

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www.gavazziautomation.com