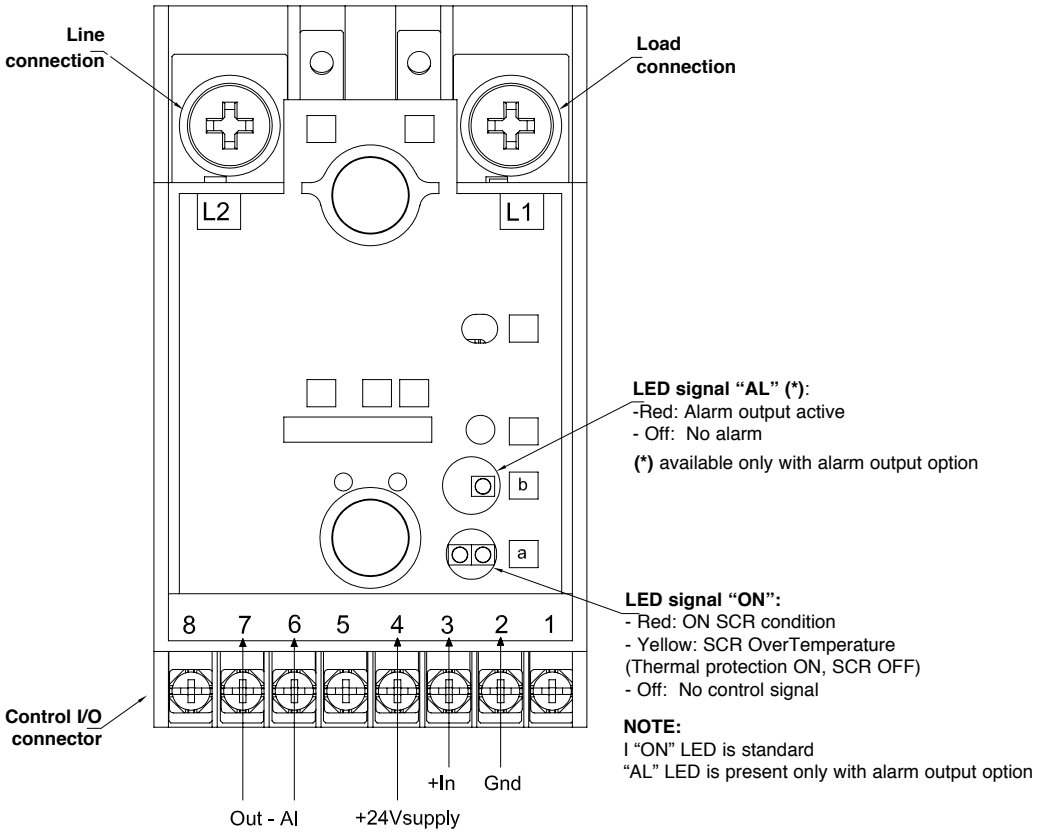
FACEPLATE DESCRIPTION

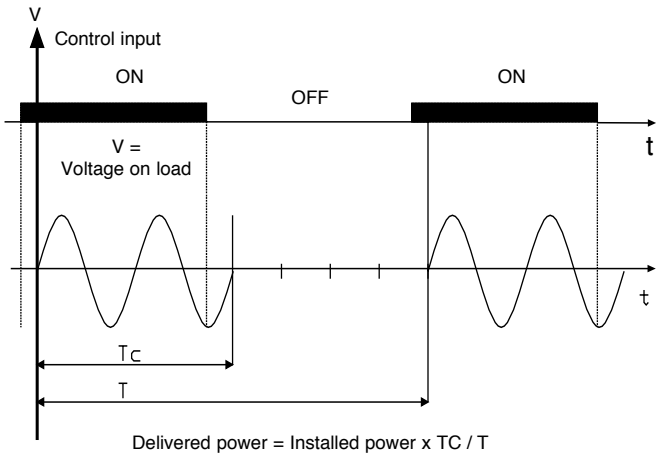
View of faceplate (Internal)
(Models with current >40A)



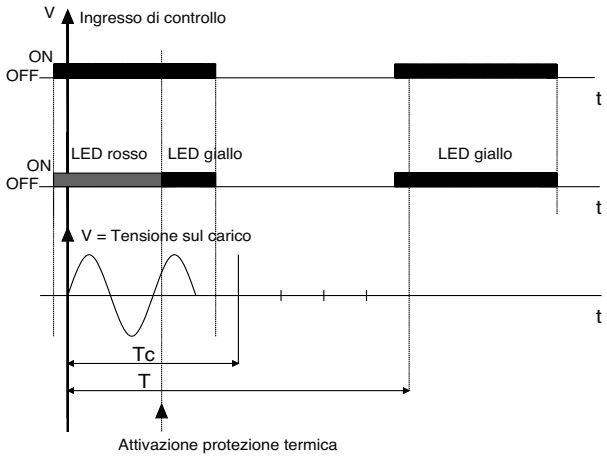
Description of I/O control terminals (GS > 40A)				
Rif.	**Description**	**Notes for type "D" input**		**Notes for type "A" input**
1	Not used			
2	Control input GND ON/OFF	VDC input GND (Supply GND in case of option)		Vac/Vdc Inputs (Range 20 to 260Vac, Imax < 8 mA)
3	+ Control input ON / OFF	Range da 6 a 32Vdc, Imax = 10 mA (1 mA with alarm option)		
4 (*)	Vdc_Supply	Supply of optional functions. (Range 6 to 32 Vdc, Imax < 15 mA)		Not used
5	Not used			
6 (*)	Alarm output	**With Options 1-2**: solid state contact Imax = 150 mA Vmax = 30 Vac/dc Z_closed < 15 Ω Z_open > 1 MΩ)	**With Options 3-4**: Terminal 6 is internally connected to terminal 4 (VDC_Supply)	**With Options1**: solid state contact Imax = 150 mA Vmax = 30 Vac/dc Z_closed < 15 Ω Z_open > 1 MΩ
7 (*)	Alarm output		**With Options 3-4**: Terminal 7 is PNP digital output (+) Imax = 150 mA	
8	Not used			
(*) Optional				

CONNECTION EXAMPLES

Control from logic output in voltage

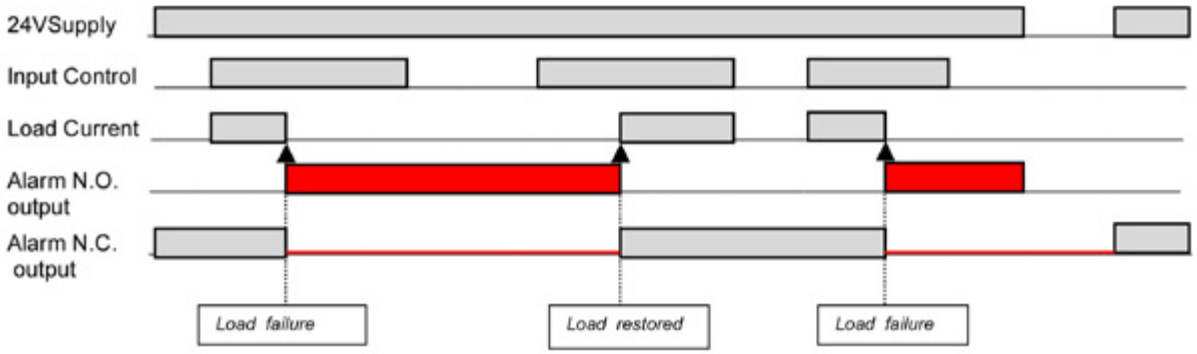


GS thermal protection
(only for models >= 50A)

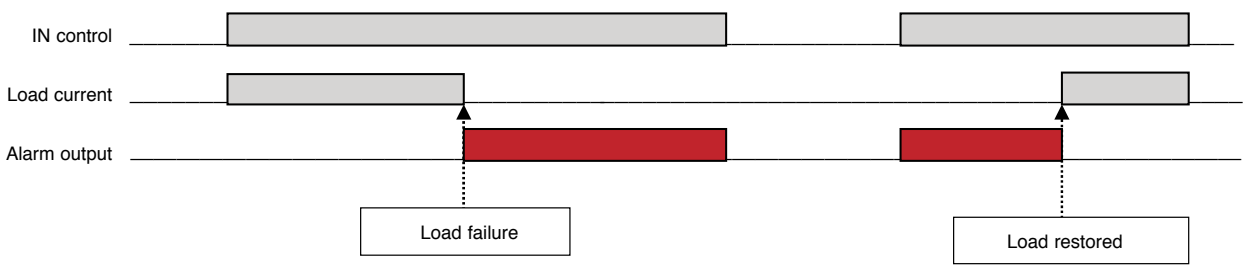


ALARM OPTION: FUNCTIONAL DIAGRAM

GS with VDC control (Control type "D")

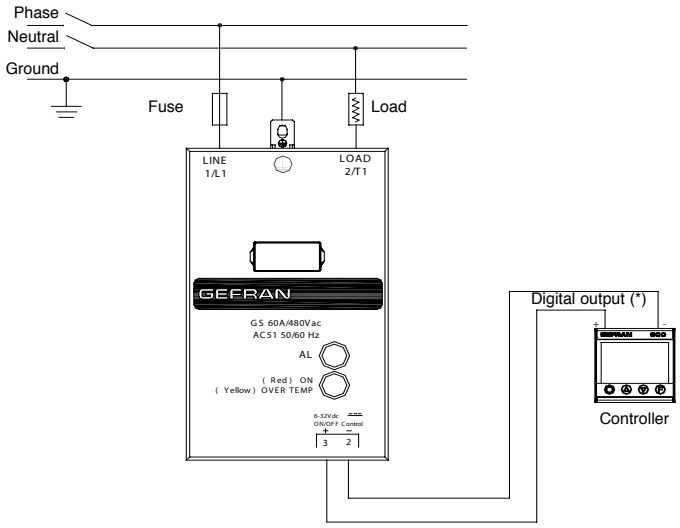


GS with VAC control (Control type "A")

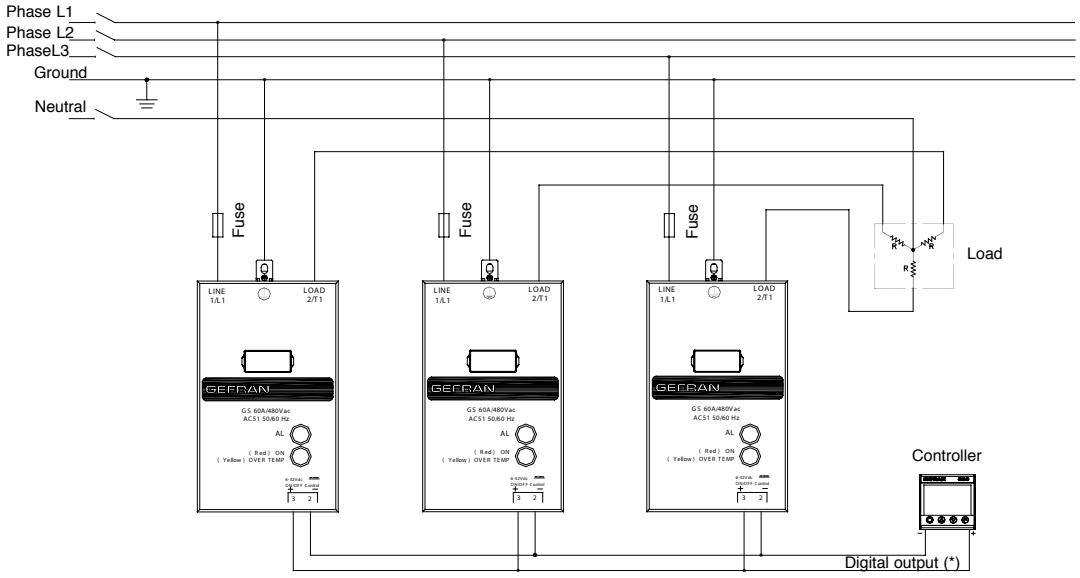


CONNECTION EXAMPLES

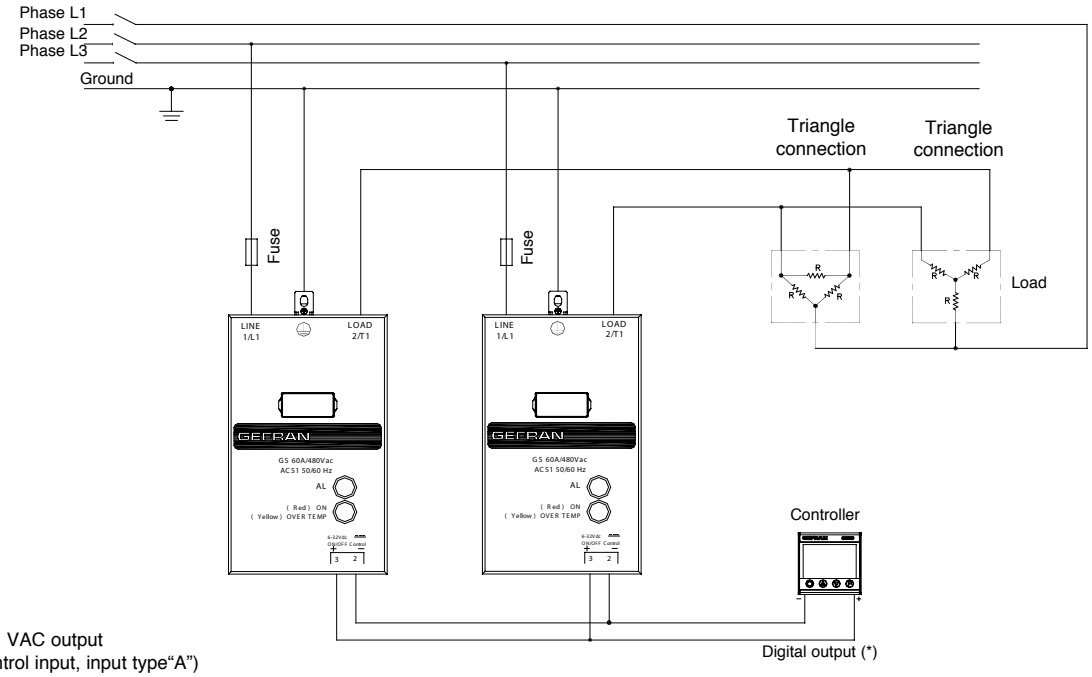
Single-phase connection



Three-phase Star connection with neutral- GS with VDC control input (Input type "D")



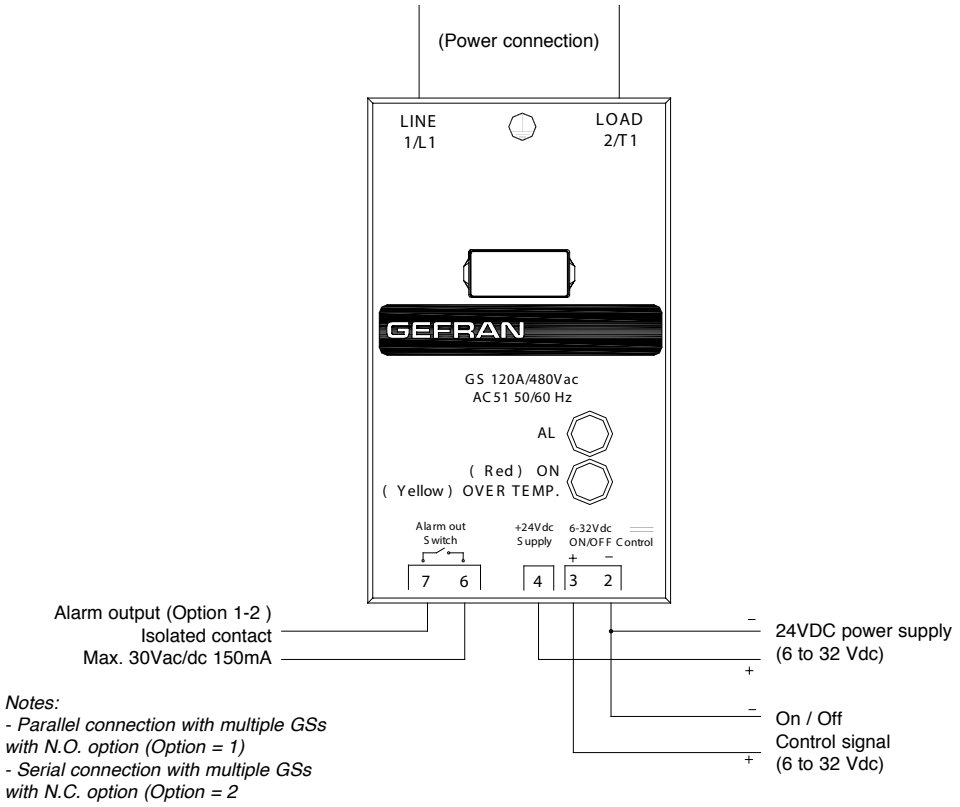
Three-phase Triangle or Star connection without neutral on two phases - GS with VDC control input (Input type "D")



(*) Or relay output with VAC output
(Use GS with VAC control input, input type"A")

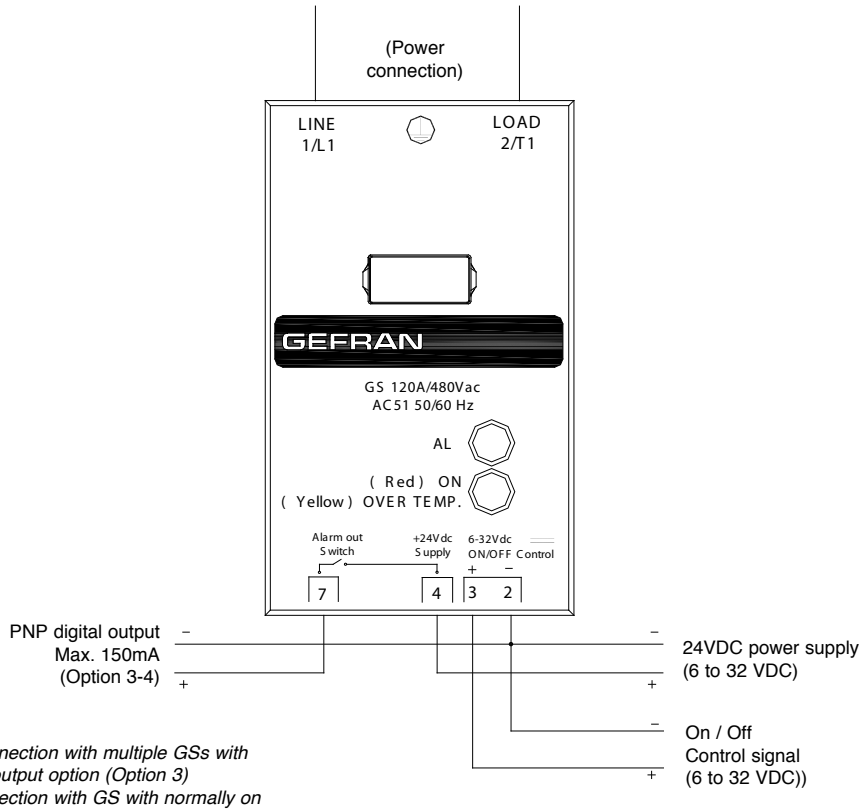
CONNECTION EXAMPLES

Connection example for GS with VDC control with isolated contact alarm output option (only Models GS-xx/xx-D-1 or GS-xx/xx-D-2)



Notes:
- Parallel connection with multiple GSs with N.O. option (Option = 1)
- Serial connection with multiple GSs with N.C. option (Option = 2

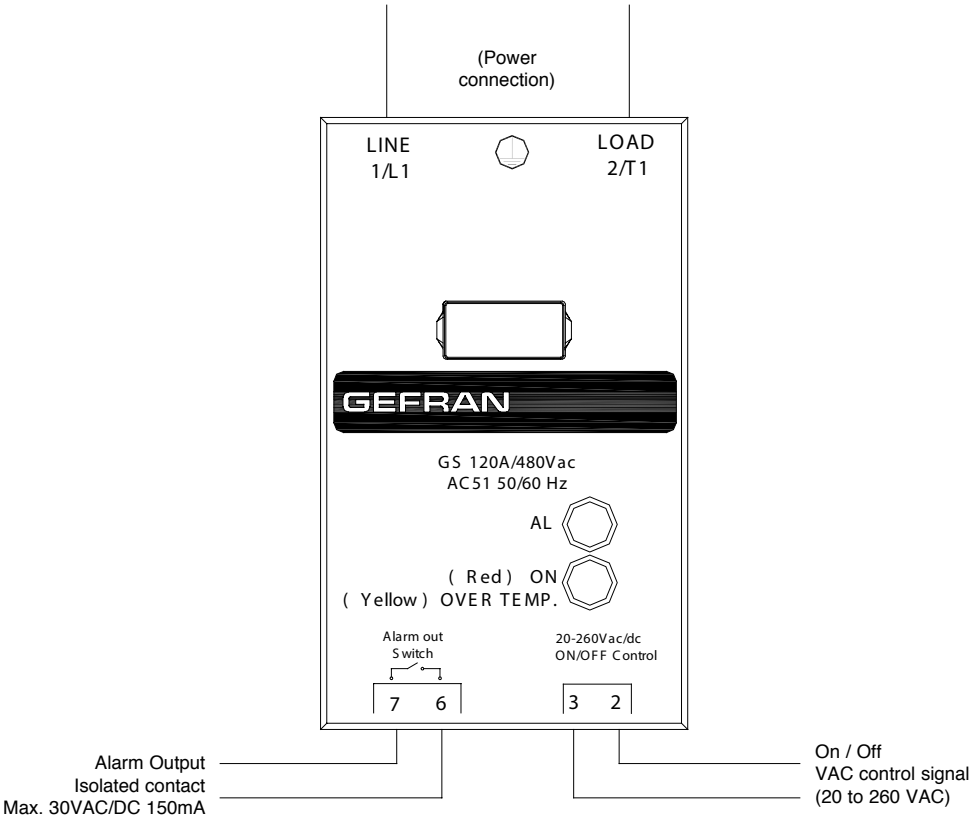
Connection example for GS with VDC control with PNP alarm output option (only Models GS-xx/xx-D-3 or GS-xx/xx-D-4)



Notes:
- Parallel connection with multiple GSs with normally off output option (Option 3)
- Single connection with GS with normally on output option (Option 4)

CONNECTION EXAMPLES

Connection example for GS with VDC control with alarm output option (Option 1)
(only Models GS-xx/xx-A-1)



Notes:
- Parallel connection with multiple GSs with N.O. option

TABLE OF TERMINALS AND CONDUCTORS

Size	CONTROL TERMINAL			POWER TERMINAL			FIXING SCREWS
	Contact area (WxD) screw	Type of pre-isolated wire terminal	Max Sect.** conductor tightening torque	Contact area (WxD) screw	Type of pre-isolated wire terminal	Max Sect.** conductor tightening torque	Contact area (WxD) screw
15A	6,4x9 M3	Eye/fork/conn. type Faston*	6mm² 5,3 lb.in (0,6Nm) Max	6,4x9 M3	Eye/fork/conn. type Faston*	6mm² 5,3 lb.in (0,4 - 0,6 Nm)	M4 10,6 lb.in (1,2 Nm)
25A	6,4x9 M3	Eye/fork/conn. type Faston*	6mm² 5,3 lb.in (0,6Nm) Max	6,4x9 M3	Eye/fork typ	6mm² 5,3 lb.in (0,4 - 0,6 Nm)	M4 10,6 lb.in (1,2 Nm)
40A	6,3x9 M3	Eye/fork typ	2,5mm² 5,3 lb.in (0,6Nm) Max	12x12 M5	Eye/fork typ	16mm² 19,5 lb.in (1,5 - 2,2 Nm)	M4 10,6 lb.in (1,2 Nm)
50/60A	6,3x9 M3	Eye/fork typ	2,5mm² 5,3 lb.in (0,6Nm) Max	16x18 M6	Eye/fork typ	50mm² 31 - 53,1 lb.in (3,5 - 6 Nm)	M5 13,3 lb.in (1,5 Nm)
75-90A	6,3x9 M3	Eye/fork typ	2,5mm² 5,3 lb.in (0,6Nm) Max	16x18 M6	Eye/fork typ	50mm² 31 - 53,1 lb.in (3,5 - 6 Nm)	M5 13,3 lb.in (1,5 Nm)
120A	6,3x9 M3	Eye/fork typ	2,5mm² 5,3 lb.in (0,6Nm) Max	16x18 M6	Eye/fork typ	50mm² 31 - 53,1 lb.in (3,5 - 6 Nm)	M5 13,3 lb.in (1,5 Nm)

(*) Female faston (for insertion, remove the M3 screw by making the nut re-enter the seat in the holder)
(**) The max. sections specified refer to unipolar copper wires isolated in PVC.

ACCESSORIES

A wide range of accessories is available (including fuses and fuse holders, heat sinks, ID plates and thermostats). To choose accessories, see the section “Solid state relays - Accessories”.

HEATSINKS

Model	Heatsink dimension [mm]	Heatsink rth [°c/w]
GS 15/25	100 x 65 x 24	3,12
GS 40	100 x 100 x 35	1,90
GS 50	100 x 100 x 60	0,83
GS 60	100 x 100 x 82	0,66
GS 75/90/120	100 x 100 x 127	0,56

EXTRARAPID FUSES

Model	Fuse manufacturer	Fuse Model size
GS 15/24, GS 15/48, GS 15/60	Bussmann Div Cooper (UK) Ltd	FWC16A10F 10x38
GS 25/24, GS 25/48, GS 25/60	Bussmann Div Cooper (UK) Ltd	FWC25A10F 10x38
GS 40/24, GS 40/48, GS 40/60	Bussmann Div Cooper (UK) Ltd	FWP40A14F 14x51
GS 50/24, GS 50/48, GS 50/60	Bussmann Div Cooper (UK) Ltd	FWP63A22F 22x58
GS 60/24, GS 60/48, GS 60/60, GS 75/24, GS 75/48, GS 75/60	Bussmann Div Cooper (UK) Ltd	FWP80A22F 22x58
GS 90/24, GS 90/48, GS 90/60	Bussmann Div Cooper (UK) Ltd	FWP100A22F 22x58
GS 120/24, GS 120/48, GS 120/60	Bussmann International Inc. USA	170M1418 000-TN/80

SCCR COORDINATION FUSES

Model	Short circuit current [Arms]	Max fuse size [A]	Bussmann Model Number	Max Voltage [VAC]
GS 15	100.000	40	DFJ-40	600
GS 25	100.000	40	DFJ-40	600
GS 40	100.000	40	DFJ-40	600
GS 50	100.000	80	DFJ-80	600
GS 60	100.000	80	DFJ-80	600
GS 75	100.000	125	DFJ-125	600
GS 90	100.000	125	DFJ-125	600
GS 120	100.000	125	DFJ-125	600

The fuses on the above table are representative of all the Bussmann DFJ fuses with lower current ratings
The devices protected with the fuses reported above, still be functional after the short circuit

ORDER CODE

GS - [ ] / [ ] - [ ] - [ ]

Model	
Version with double SCR	**GS**

Rated current	
15Aac	**15**
25Aac	**25**
40Aac	**40**
50Aac	**50**
60Aac	**60**
75Aac	**75**
90Aac	**90**
120Aac	**120**

Rated voltage	V
230Vac	**24**
480Vac	**48**
600Vac	**60**

Input type	
6 ... 32 Vdc	**D**
20 ... 260 Vac / Vdc	**A**

Alarm Output Option	
Available only for GS rated current ≥ 50A	
0	None
1	Insulated switch output (normally open)
2 (**)	Insulated switch output (normally closed)
3 (**)	Digital PNP output (normally open)
4 (**)	Digital PNP output (normally active)

(**) available only for models with type “D” input

Please contact GEFRAN personnel for information on availability of codes.

•WARNINGS

WARNING: this symbol indicates danger.

Read the following warnings before installing, connecting or using the device:
• follow instructions precisely when connecting the device.
• always use cables that are suitable for the voltage and current levels indicated in the technical specifications.
• in applications with risk of damage to persons, machines or materials, you MUST install auxiliary alarm devices.
• it is advisable to be able to check alarm states during normal operation as well
• DO NOT operate the device in rooms with dangerous (inflammable or explosive) atmosphere.
• During continuous operation, the heat sink can reach up to 100°C, and stays at a high temperature even after the device is turned off due to thermal inertia; therefore, DO NOT touch it and avoid contact with electrical wires.
• do not work on the power part without first disconnecting electrical power to the panel.
• do not remove the cover when the device is powered!
Installation:
• correctly ground the device using the specific terminal.
• power supply lines must be separated from device input and output lines; always check that the supply voltage matches the voltage indicated on the device label.
• avoid dust, humidity, corrosive gases and heat sources.
• respect the installation distances between one device and another (to allow for dissipation of generated heat).
• to keep air in movement, we advise you to install a fan near the GST-GS group in the electrical panel containing the GST-GSs.
• respect the indicated dissipation curves
Maintenance: at regular intervals, check operation of the cooling fans and clean all air ventilation filters.
• repairs must be done out only by trained and specialized personnel. Cut power to the device before accessing internal parts.
• do not clean the box with solvents derived from hydrocarbons (trichloroethylene, gasoline, etc.). Using such solvents will compromise the device's mechanical reliability. Use a clean cloth moistened with ethyl alcohol or water to clean external parts in plastic.
Service: GEFRAN has a service department. The warranty excludes defects caused by any use not conforming to these instructions.

CE	This device conforms to European Union Directive 2014/30/EU and 2014/35/EU as amended with reference to generic standards: **EN 61000-6-2** (immunity in industrial environment) **EN 61000-6-4** (emission in industrial environment) - **EN 61010-1** (safety regulations).
UL	In Conformity with **UL508 - File: E243386**
SCCR RMS SYM 100KA / 600V	100KA when protected by proper fuse

DTS_GS_01-2019_ENG

SOUTHWEST HEATER AND CONTROLS
10610 Control Place, Dallas Texas 75238
Main# 214-340-7500 Toll Free#: 800-687-2220 EMAIL: sales@swhc.com WEB: www.swhc.com