

→ Ready to use SSR for General Purpose 22.5 mm

- Epoxy-free design eliminates internal component stress
- DIN-RAIL or panel mount
- Back-to-back SCR output
- Relay or contactor output terminal configuration
- Direct Bond Copper (DBC) substrate
- Built-in transient protection (TVS)
- 100k-cycle UL508 endurance rating
- 4000 V AC optical isolation
- UL / CSA / TUV approved, CE compliant
- EMC compliant (level 3)
- Rated current at 40°C ambient temperature



Relay



Contactor

Part numbers

Type	Current (A)	Input voltage (V)	Output voltage (V)	Output	Switching	Code
22.5 mm	20	4-32 V DC	48-600 V AC	Relay	Zero	GNR20DHZ
	20	4-32 V DC	48-600 V AC	Contactor	Zero	GNR20DCZ
	20	4-32 V DC	48-600 V AC	Relay	Random	GNR20DHR
	20	4-32 V DC	48-600 V AC	Contactor	Random	GNR20DCR
	20	90-140 V AC	48-600 V AC	Relay	Zero	GNR20BHZ
	20	90-140 V AC	48-600 V AC	Contactor	Zero	GNR20BCZ
	20	180-280 V AC	48-600 V AC	Relay	Zero	GNR20AHZ
	20	180-280 V AC	48-600 V AC	Contactor	Zero	GNR20ACZ
	30	4-32 V DC	48-600 V AC	Relay	Zero	GNR30DHZ
	30	4-32 V DC	48-600 V AC	Contactor	Zero	GNR30DCZ
	30	4-32 V DC	48-600 V AC	Relay	Random	GNR30DHR
	30	4-32 V DC	48-600 V AC	Contactor	Random	GNR30DCR
	30	90-140 V AC	48-600 V AC	Relay	Zero	GNR30BHZ
	30	90-140 V AC	48-600 V AC	Contactor	Zero	GNR30BCZ
	30	180-280 V AC	48-600 V AC	Relay	Zero	GNR30AHZ
	30	180-280 V AC	48-600 V AC	Contactor	Zero	GNR30ACZ

Output Specifications

Voltage range (Vrms max)	48-600	48-600
Non-rep. peak voltage (Vpeak)	1100	1100
Maximum off-state leakage at Vmax and T = 25 °C (µAeff per phase)	120	120
Current max @ 25°C (A)	20	30
Current max @ 40°C (A)	20	30
Minimum current (mArms)	100	100
On-state voltage drop at I max (Vpeak)	1.20	1.20
I ² t (t = 10 ms) (A ² s) (50 - 60 Hz)	1225-1020	2850-2350
Static (off-state) dv/dt (V/µs)	500	500
HP ratings at 120 V	1/2	3/4
HP ratings at 240 V	1	2
Utilization category AC 51 (A)	20	30
Utilization Category AC-53 (A)	6	9
Max. non-rep. 1 s surge (T=25 °C) (A)	100	150
Max. non-rep.1-cycle surge (T=25 °C) (A)	495	750

Input Specifications

Input voltage (V)	4-32 V DC	90-140 V AC	180-280 V AC
Turn-off voltage (V)	1	10	10
Max. controlled current (mA)	20	6	8
Min. input current (mA)	16	5	6
Turn-on time (ms) (zero voltage relay)	8.33 (60Hz) - 10 (50Hz)	20	20
Turn-on-time (ms) (instantaneous relay)	0.1	-	-
Max. turn-off time (ms)	8.33 (60Hz) - 10 (50Hz)	30	30

General characteristics

General characteristics

Operating temperature (°C)	-20 → +80 -20 → +60 (90-140 V AC)
Storage temperature (°C)	-40 → +100
Input-to-Output isolation voltage (Vrms)	4200
Input/Output to ground isolation voltage (Vrms)	4000
Operating frequency (Hz)	47 → 63
Housing material	UL-94V0 Self extinguishing polycarbonate
Heatsink material	Anodized aluminum black
Protection (IEC 60529) - Casing	IP 20
Weight (g)	225
Altitude for nominal performance (/sea level)	2000 m
Input terminal capacity (stranded and solid wire)	16 AWG → 24 AWG
Input terminal tightening torque (Nm)	0.5
Min. output terminal capacity (IEC 941-1)	16 AWG
Max. output terminal capacity (IEC 941-1) stranded wire	8 AWG
Max. output terminal capacity (IEC 941-1) solid wire	10 AWG
Output terminal tightening torque (Nm)	1.3
Maximum cross section for output wire (mm ²)	10

Safety standards

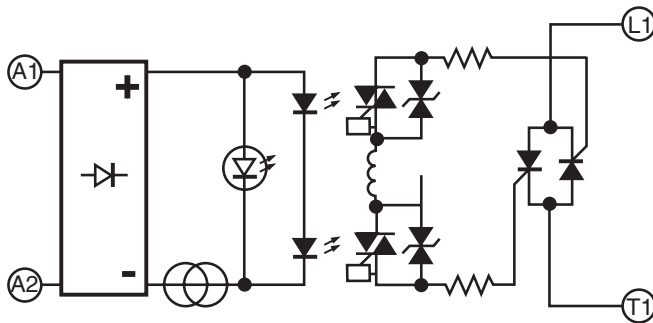
Conformity to standards	IEC 62314 IEC 60947-4-3 (AC 51) IEC 60947-4-2 (AC 53a) CE compliant with LVD 73/23/EEC TUV certified per EN 60950 CSA recognized per C22.2.no. 14-95 UL recognized per UL 508
Vibrations according to IEC/EN60068-2-6	35 mm / 10-55 Hz
Shock test IEC 60068-2-27	15 G / 11 ms
Immunity to electrostatic discharges acc. IEC/EN 61000-4-2	Level 3
Immunity to electrostatic fields acc. ENV 50140/204 (IEC 1000-4-3)	Level 3
Immunity to rapid transient bursts acc. to IEC 1000-4-4	Level 3
Immunity to shock waves according to IEC/EN 61000-4-5	Level 3
Immunity to radio frequency in common mode acc. to ENV (CEI 1000-4-6)	Level 3
Conducted and radiated noise for industrial environments per CISPR 11	Class A
Pollution	Degree 2
Overvoltage	Category III

Comments

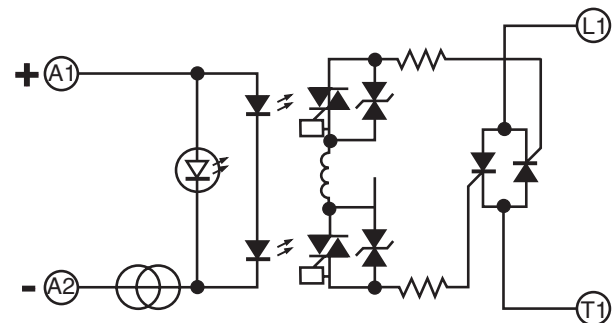
For multiple unit configuration consult our website www.crouzet.com/cooltech.
Relay style SSR's @280 V AC @60 C require #20 Control Wire.
LED is not an absolute indicator of power being present.

Connections

Equivalent AC input circuit

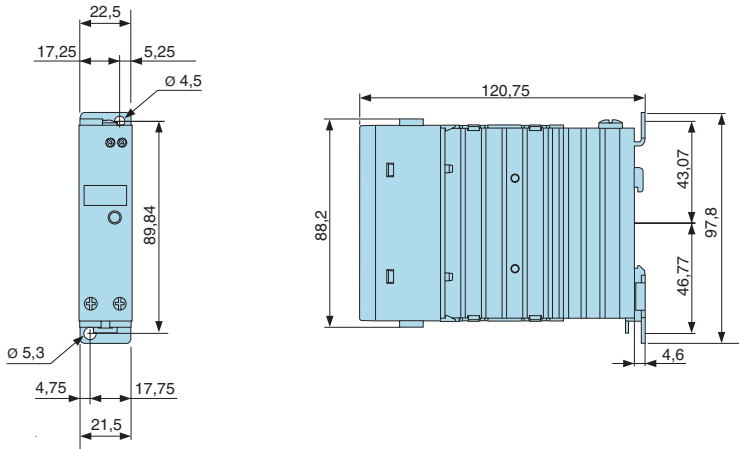


Equivalent DC input circuit

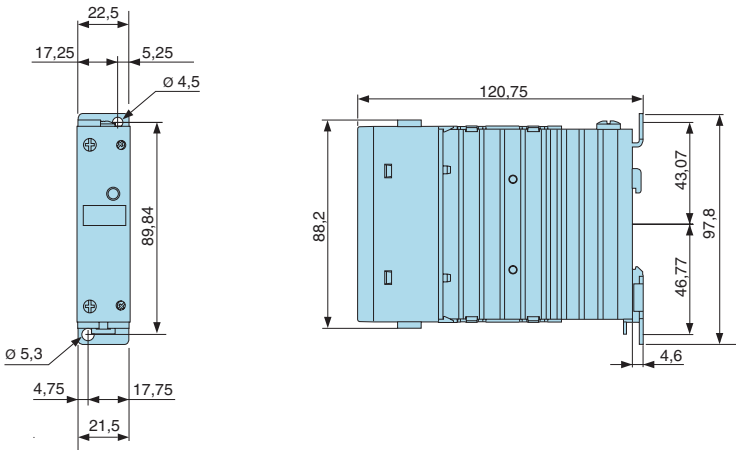


Dimensions

GNR 22.5 mm relay termination

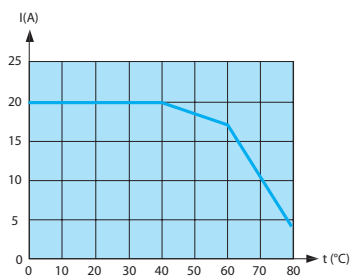


GNR 22.5 mm contactor termination

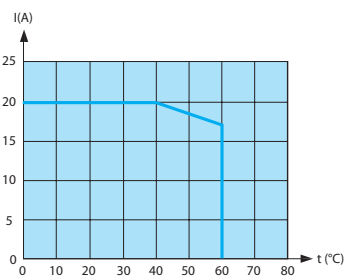


Curves

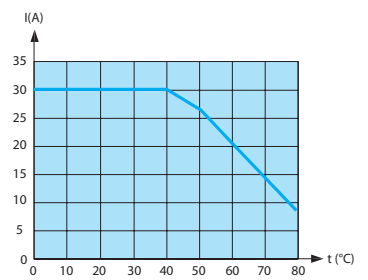
GNR20B - GNR20D



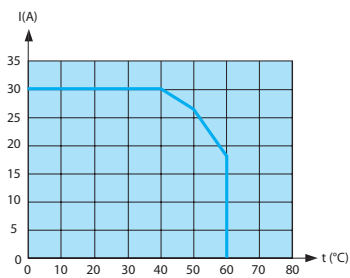
GNR20A



GNR30B - GNR30D



GNR30A



→ Ready to use SSR for General Purpose 45mm wide Single Phase

- Epoxy-free design eliminates internal component stress
- DIN-RAIL or panel mount
- Back-to-back SCR output
- Relay or contactor output terminal configuration
- Direct Bond Copper (DBC) substrate
- Built-in transient protection (TVS)
- 100k-cycle UL508 endurance rating
- 4000 V AC optical isolation
- UL / CSA / TUV approved, CE compliant
- EMC compliant (level 3)
- Rated current at 40°C ambient temperature



Relay



Contactor

Part numbers

Type	Current (A)	Input voltage (V)	Output voltage (V)	Output	Switching	Code
45 mm	35	4-32 V DC	48-600 V AC	Relay	Zero	GNR35DHZ
	35	4-32 V DC	48-600 V AC	Contactor	Zero	GNR35DCZ
	35	4-32 V DC	48-600 V AC	Relay	Random	GNR35DHR
	35	4-32 V DC	48-600 V AC	Contactor	Random	GNR35DCR
	35	90-140 V AC	48-600 V AC	Relay	Zero	GNR35BHZ
	35	90-140 V AC	48-600 V AC	Contactor	Zero	GNR35BCZ
	35	180-280 V AC	48-600 V AC	Relay	Random	GNR35AHZ
	35	180-280 V AC	48-600 V AC	Contactor	Random	GNR35ACZ
	45	4-32 V DC	48-600 V AC	Relay	Zero	GNR45DHZ
	45	4-32 V DC	48-600 V AC	Contactor	Zero	GNR45DCZ
	45	4-32 V DC	48-600 V AC	Relay	Random	GNR45DHR
	45	4-32 V DC	48-600 V AC	Contactor	Random	GNR45DCR
	45	90-140 V AC	48-600 V AC	Relay	Zero	GNR45BHZ
	45	90-140 V AC	48-600 V AC	Contactor	Zero	GNR45BCZ
	45	180-260 V AC	48-600 V AC	Relay	Zero	GNR45AHZ
	45	180-260 V AC	48-600 V AC	Contactor	Zero	GNR45ACZ

Output Specifications

Voltage range (Vrms max)	48-600	48-600
Non-rep. peak voltage (Vpeak)	1100	1100
Maximum off-state leakage at Vmax and T = 25 °C (µAeff per phase)	120	120
Current max @ 25°C (A)	35	45
Current max @ 40°C (A)	35	45
Minimum current (mArms)	100	100
On-state voltage drop at I max (Vpeak)	1.35	1.35
I ² t (t = 10 ms) (A ² s) (50 - 60 Hz)	3000-2500	3200-2600
Static (off-state) dv/dt (V/µs)	500	500
HP ratings at 120 V	1.5	1.5
HP ratings at 240 V	2	3
HP ratings at 480 V	5	5
Utilization category AC 51 (A)	35	45
Utilization Category AC-53 (A)	9	10
Max. non-rep. 1 s surge (T=25 °C) (A)	150	160
Max. non-rep.1-cycle surge (T=25 °C) (A)	770	800

Input Specifications

Input voltage (V)	4-32 V DC	90-140 V AC	180-280 V AC*
Turn-off voltage (V)	1	10	10
Max. controlled current (mA)	20	6	8
Min. input current (mA)	16	5	6
Turn-on time (ms) (zero voltage relay)	8.33 (60Hz) - 10 (50Hz)	20	20
Turn-on-time (ms) (instantaneous relay)	0.1	-	-
Max. turn-off time (ms)	8.33 (60Hz) - 10 (50Hz)	30	30

*(GNR45AHZ, GNR45ACZ : 180-260 V AC)

General characteristics

General characteristics

Operating temperature (°C)	-20 → +80 -20 → +60 (90-140 V AC)
Storage temperature (°C)	-40 → +100
Input-to-Output isolation voltage (Vrms)	4200
Input/Output to ground isolation voltage (Vrms)	4000
Operating frequency (Hz)	47 → 63
Housing material	UL-94V0 Self extinguishing polycarbonate
Heatsink material	Anodized aluminum black
Protection (IEC 60529) - Casing	IP 20
Weight (g)	400
Altitude for nominal performance (/sea level)	2000 m
Input terminal capacity (stranded and solid wire)	16 AWG → 24 AWG
Input terminal tightening torque (Nm)	0.5
Min. output terminal capacity (IEC 941-1)	16 AWG
Max. output terminal capacity (IEC 941-1) stranded wire	8 AWG
Max. output terminal capacity (IEC 941-1) solid wire	10 AWG
Output terminal tightening torque (Nm)	1.3
Maximum cross section for output wire (mm ²)	10

Safety standards

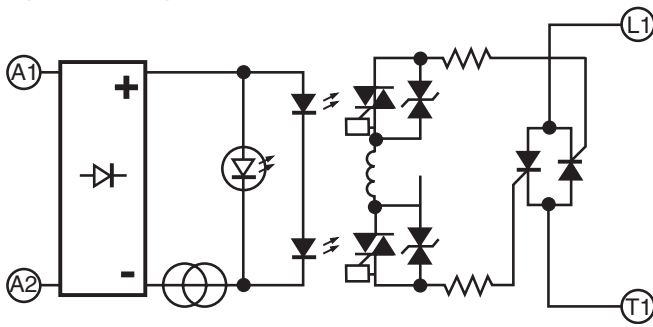
Conformity to standards	IEC 62314 IEC 60947-4-3 (AC 51) IEC 60947-4-2 (AC 53a) CE compliant with LVD 73/23/EEC TUV certified per EN 60950 CSA recognized per C22.2.no. 14-95 UL recognized per UL 508
Vibrations according to IEC/EN60068-2-6	35 mm / 10-55 Hz
Shock test IEC 60068-2-27	15 G / 11 ms
Immunity to electrostatic discharges acc. IEC/EN 61000-4-2	Level 3
Immunity to electrostatic fields acc. ENV 50140/204 (IEC 1000-4-3)	Level 3
Immunity to rapid transient bursts acc. to IEC 1000-4-4	Level 3
Immunity to shock waves according to IEC/EN 61000-4-5	Level 3
Immunity to radio frequency in common mode acc. to ENV (CEI 1000-4-6)	Level 3
Conducted and radiated noise for industrial environments per CISPR 11	Class A
Pollution	Degree 2
Overvoltage	Category III

Comments

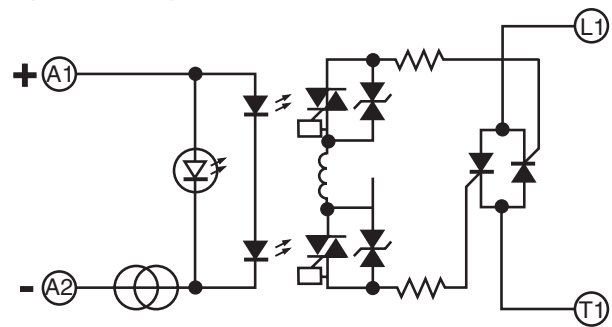
For multiple unit configuration consult our website www.crouzet.com/cooltech.
Relay style SSR's @280 V AC @60 C require #20 Control Wire.
LED is not an absolute indicator of power being present.

Connections

Equivalent AC input circuit

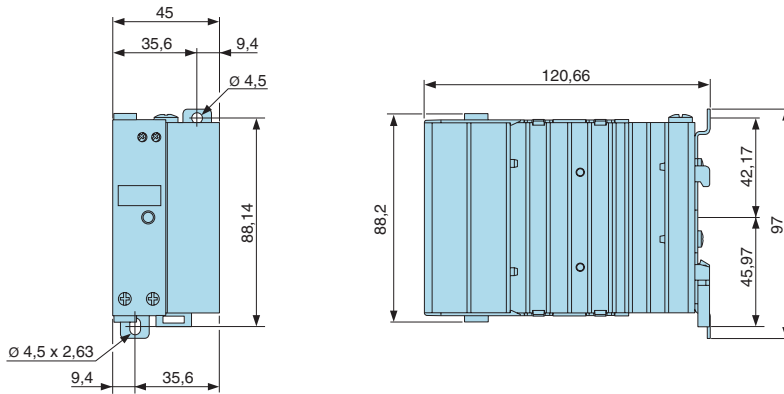


Equivalent DC input circuit

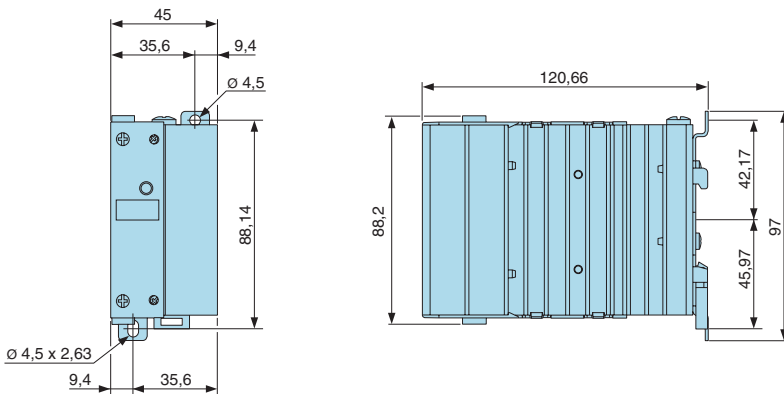


Dimensions

GNR 45 mm relay termination

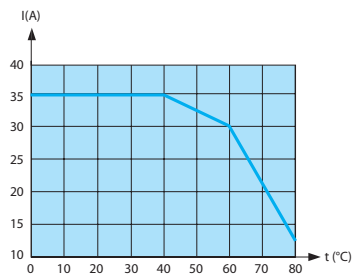


GNR 45 mm contactor termination

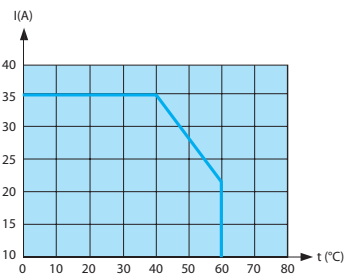


Curves

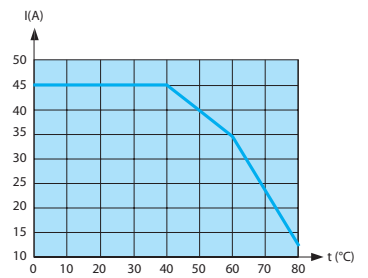
GNR35B - GNR35D



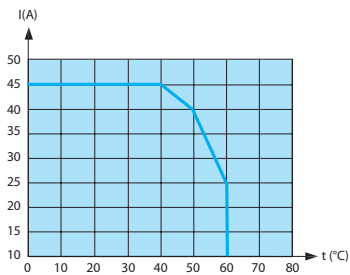
GNR35A



GNR45B - GNR45D



GNR45A



→ Ready to use SSR for General Purpose 90mm wide Three Phase

- Epoxy-free design eliminates internal component stress
- DIN-RAIL or panel mount
- Back-to-back SCR output
- Direct Bond Copper (DBC) substrate
- Built-in transient protection (TVS)
- 100k-cycle UL508 endurance rating
- 4000 V AC optical isolation
- UL / CSA / TUV approved, CE compliant
- EMC compliant (level 3)
- Rated current at 40°C ambient temperature



Part numbers

Type	Current (A)	Input voltage (V)	Output voltage (V)	Output	Switching	Code
90 mm	3x25	4-32 V DC	48-600 V AC	Contacteur	Zero	GNR25DCZ
	3x25	4-32 V DC	48-600 V AC	Contacteur	Random	GNR25DCR
	3x25	90-140 V AC	48-600 V AC	Contacteur	Zero	GNR25BCZ
	3x25	180-280 V AC	48-600 V AC	Contacteur	Zero	GNR25ACZ

Output Specifications

Voltage range (Vrms max)	48-600
Non-rep. peak voltage (Vpeak)	1100
Maximum off-state leakage at Vmax and T = 25 °C (μAeff per phase)	120
Current max @ 25°C (A)	25
Current max @ 40°C (A)	25
Minimum current (mArms)	100
On-state voltage drop at I max (Vpeak)	1.20
I ² t (t = 10 ms) (A ² s) (50 - 60 Hz)	1250-1040
HP ratings at 480 V	3
Static (off-state) dv/dt (V/μs)	500
Utilization category AC 51 (A)	20
Utilization Category AC-53 (A)	5
Max. non-rep. 1 s surge (T=25 °C) (A)	100
Max. non-rep.1-cycle surge (T=25 °C) (A)	500

Input Specifications

Input voltage (V)	4-32 V DC	90-140 V AC	180-280 V AC
Turn-off voltage (V)	1	10	10
Max. controled current (mA)	62	19	24
Min. input current (mA)	50	15	19
Turn-on time (ms) (zero voltage relay)	8.33 (60Hz) - 10 (50Hz)	20	20
Turn-on-time (ms) (instantaneous relay)	0.1	-	-
Max. turn-off time (ms)	8.33 (60Hz) - 10 (50Hz)	30	30

General characteristics

General characteristics

Operating temperature (°C)	-20→+80 -20→+60 (90-140 V AC)
Storage temperature (°C)	-40→+100
Input-to-Output isolation voltage (Vrms)	4200
Input/Output to ground isolation voltage (Vrms)	4000
Operating frequency (Hz)	47→63
Housing material	UL-94V0 Self extinguishing polycarbonate
Heatsink material	Anodized aluminum black
Protection (IEC 60529) - Casing	IP 20
Weight (g)	600
Altitude for nominal performance (/sea level)	2000 m
Input terminal capacity (stranded and solid wire)	16 AWG→24 AWG
Input terminal tightening torque (Nm)	0.5
Min. output terminal capacity (IEC 941-1)	16 AWG
Max. output terminal capacity (IEC 941-1) stranded wire	8 AWG
Max. output terminal capacity (IEC 941-1) solid wire	10 AWG
Output terminal tightening torque (Nm)	1.3
Maximum cross section for output wire (mm ²)	10

Safety standards

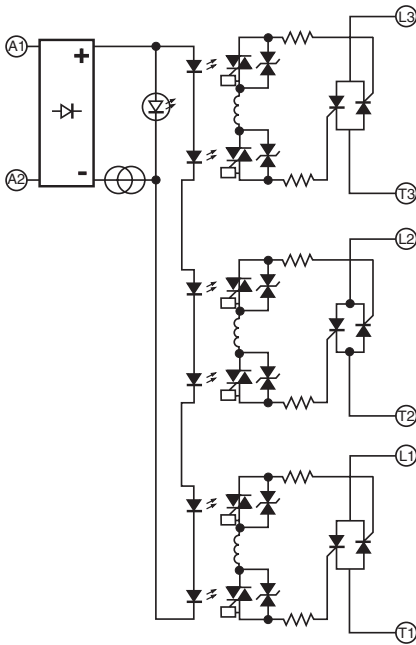
Conformity to standards	IEC 62314 IEC 60947-4-3 (AC 51) IEC 60947-4-2 (AC 53a) CE compliant with LVD 73/23/EEC TUV certified per EN 60950 CSA recognized per C22.2.no. 14-95 UL recognized per UL 508
Vibrations according to IEC/EN60068-2-6	35 mm / 10-55 Hz
Shock test IEC 60068-2-27	15 G / 11 ms
Immunity to electrostatic discharges acc. IEC/EN 61000-4-2	Level 3
Immunity to electrostatic fields acc. ENV 50140/204 (IEC 1000-4-3)	Level 3
Immunity to rapid transient bursts acc. to IEC 1000-4-4	Level 3
Immunity to shock waves according to IEC/EN 61000-4-5	Level 3
Immunity to radio frequency in common mode acc. to ENV (CEI 1000-4-6)	Level 3
Conducted and radiated noise for industrial environments per CISPR 11	Class A
Pollution	Degree 2
Overvoltage	Category III

Comments

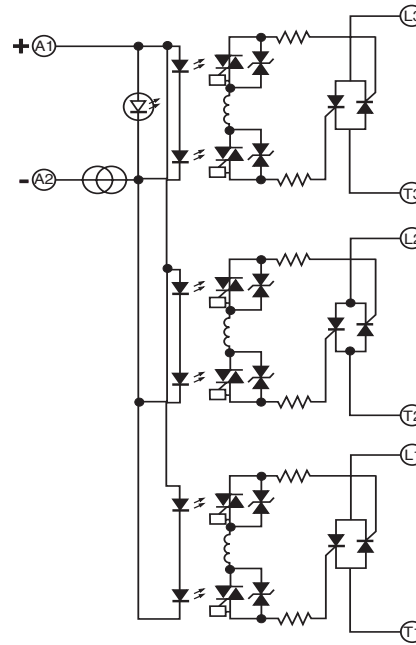
For multiple unit configuration consult our website www.crouzet.com/cooltech.
Relay style SSR's @280 V AC @60 C require #20 Control Wire.
LED is not an absolute indicator of power being present.

Connections

Equivalent AC input circuit

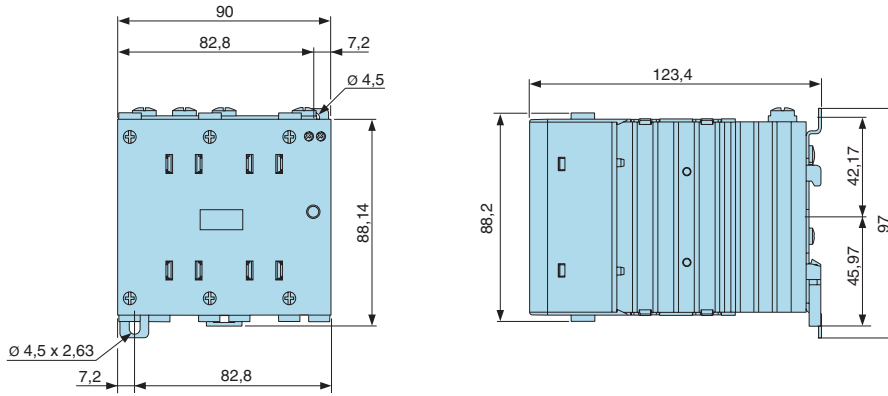


Equivalent DC input circuit



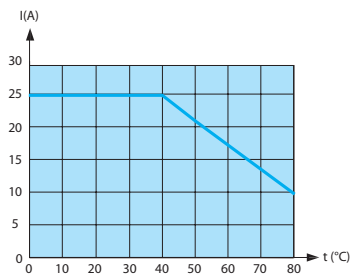
Dimensions

GNR 90 mm contactor termination

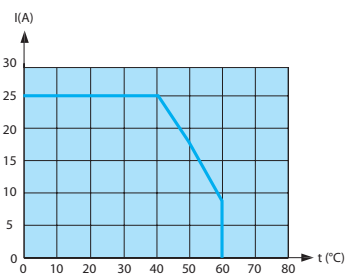


Curves

GNR25B - GNR25D



GNR25A



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