

DATASHEET

Static var generators

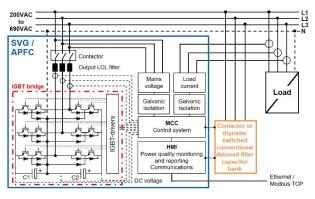
Static var generators (SVG), also known as active power factor compensators (APFC) or instantaneous stepless reactive power compensators, are the ultimate answer to power quality problems caused by low power factor and reactive power demand for a wide range of segments and applications. They are a high performance, compact, flexible, modular and costeffective type of active power filters (APF) that provide an instantaneous and effective response to power quality problems in low or high voltage electric power systems. They enable longer equipment lifetime, higher process reliability, improved power system capacity and stability, and reduced energy losses, complying with most demanding power quality standards and grid codes.



SVG/APFC module rated 400V 50/60Hz -69kvar to +69kvar

Low power factor increases the active energy losses of installations and affects their stability. It is typically caused by inductive or capacitive loads that demand extra reactive power to perform properly. Other contributors to low power factor are harmonic currents produced by nonlinear loads and the change of load in the electric power system.

SVGs deliver real-time inductive or capacitive reactive power compensation. Rapid response time provides stable and accurate power factor correction without the drawbacks of conventional solutions like capacitor banks and reactor banks.



Typical design of an SVG/APFC

Highlights

- Full range: Specifications from +/-17kvar to +/-152kvar (200V-690V) in 3- and 4-wire systems can be covered by a single module. Unlimited amount of SVG modules can be paralleled.
- Simple connection to high voltage systems.
- 3-level NPC inverter topology reduces losses, noise, size and extends module's lifetime.
- Overall response time <100 microseconds.
- Instantaneous, precise & stepless power factor correction of inductive and capacitive loads.
- Not possible to over or under compensate the system and no risk of harmonic resonance.
- Suitable for networks with harmonic distortion.
- Capability of switching contactors or thyristor switches of detuned filter capacitor bank steps.
- Compact and modular design optimized for installation, commissioning and maintenance.

Typical segments

SVGs can be applied to small, medium or large applications in a wide range of segments.

Markets	Segments	Applications
Smart grid	Renewable generation	
	Non-renewable generation	
	Transmission & distribution	
	Microgrids	
Raw material	Mining	
extraction &	Oil & gas	
processing	Minerals & cement	
	Steel & metals	
Manufacturing	Conventional manufacturing	
&	Critical process industries	
infrastructure	Transport	
	Water & wastewater	
Green	Healthcare facilities	
buildings &	Critical process facilities	
smart cities	Industrial & office facilities	
	Retail & leisure facilities	

Applications: Green - primary, yellow - secondary, red - none.

Typical applications

SVGs have many low and high voltage potential applications where their use offers many benefits.

- Installations with fast changing reactive power demand: Electric arc furnaces, ball mills, etc.
- Highly dynamic loads (power factor fluctuates rapidly or in big steps): Cranes, shredders, sawmill machinery, welding machines, etc.
- Correction of leading power factor like in data centers allowing back-up generators operation
- UPS systems.
- Solar inverters and wind turbine generators.
- Railway electrification systems: Trains & trams
- Loads with low power factor: Motors, cables, lightly loaded transformers, lighting, etc.



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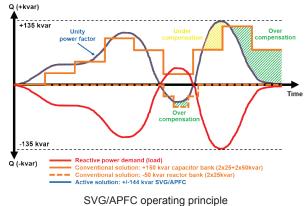
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Operating principle

An SVG is a power electronics-based device connected in parallel with the load that requires power factor correction. The SVG works as a controlled current source providing any kind of current waveform in real time.

When the load generates inductive or capacitive current, it makes load current lagging or leading the voltage. An SVG detects the phase angle difference and injects in real time leading or lagging current into the electric power system, making the phase angle of the current almost the same as that of the voltage, bringing fundamental power factor to unity.



Benefits

Main benefits of SVGs can be summarized as:

- Capability to deliver instantaneous capacitive and inductive reactive power compensation.
- Optimized for highly dynamic applications where conventional capacitor banks or reactor banks are unable to track the loads.

- Allow compensation of loads fed by generators without risk of overcompensation.
- Only inject in the system the reactive power that is required by the load at each instant.
- No need for over dimensioning: Compensation capacity equals the installed capacity.
- Unaffected by network voltage drop. Even under reduced network voltage levels, full reactive current can be provided to meet required demand.
- Simple dimensioning and installation.
- Compliance with the strictest power quality standards and grid codes.



SVG/APFC rated 415V 50/60Hz -288kvar to +288kvar

Comparison with conventional solutions

	Capacitor banks or reactor banks	Static var generators / Active PF compensators
Response time	• Contactor-based solutions take at least 30s to 40s to mitigate the problem and thyristor-based solutions 20ms to 30ms	•Real-time mitigation of power quality problems as the overall response time is less than 100µs
Output	•Depends on step sizes, cannot match load demand in real time •Depends on grid voltage as capacitor units & reactors are used	
Power factor correction	 Capacitor banks needed for inductive loads and reactor banks for capacitive loads. Problems in systems with mixed loads Not possible to guarantee unity power factor as they have steps, system will be having continuous over and undercompensation 	lagging (inductive) and leading (capacitive) loads
Unbalance	Do not correct load unbalance	•Can correct by selecting the amount of load balancing
Design & sizing	 Reactive power studies needed to size the proper solution Usually oversized to better adjust to changing load demands Need to be designed taking into account system harmonics Custom-built for specific load and network conditions 	 Not required extensive studies as it is adjustable Mitigation capacity can be exactly what load demands Unaffected by harmonic distortion in the system Can adapt to load and network conditions & changes
Resonance	•Parallel or series resonance can amplify currents in the system	No risk of harmonic resonance with the network
Transients	Caused by the switching of capacitor units or shunt reactors	 Not created (no switching of passive components)
Overloading	 Possible due to slow response and/or variation of loads 	•Not possible as current limited to max. RMS current
Footprint & installation	Medium to large footprint, especially if several harmonic orders Not simple installation, especially if loads upgraded frequently	•Small footprint and simple installation as modules are compact in size. Existing switchgear can be used
Expansion	•Limited and depends on load conditions and network topology	•Simple (and not dependant) by adding modules
Maintenance & lifetime	 Using components that need extensive maintenance like fuses, circuit breakers, contactors, reactors and capacitor units Switching, transients and resonance reduce lifetime 	• Simple maintenance and service life up to 15 years as there is no electro-mechanical switching and no risk of transients or resonance



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Technical specifications – 200-480VAC devices

LOOSE MODULES	A2-50	A2-60	A2-75	A2-100 Electrical ratings	A2-120	A2-150	A2-200
Rated voltage		200-480VAC +/-109	% (auto sensing). Con	nection to higher voltage	es through suitable	step-up transformer.	
Rated frequency				50/60Hz (auto sensing)			
Reactive power output at 200V	-17 to +17kvar	-21 to +21kvar	-26 to +26kvar	-35 to +35kvar	-42 to +42kvar	-52 to +52kvar	-69 to +69kvar
Reactive power output at 220V	-19 to +19kvar	-23 to +23kvar	-29 to +29kvar	-38 to +38kvar	-46 to +46kvar	-57 to +57kvar	-76 to +76kvar
Reactive power output at 380V	-33 to +33kvar	-39 to +39kvar	-49 to +49kvar	-66 to +66kvar	-79 to +79kvar	-99 to +99kvar	-132 to +132kvar
Reactive power output at 400V	-35 to +35kvar	-42 to +42kvar	-52 to +52kvar	-69 to +69kvar	-83 to +83kvar	-104 to +104kvar	-139 to +139kvar
Reactive power output at 415V	-36 to +36kvar -38 to +38kvar	-43 to +43kvar -46 to +46kvar	-54 to +54kvar -57 to +57kvar	-72 to +72kvar	-86 to +86kvar -91 to +91kvar	-108 to +108kvar -114 to +114kvar	-144 to +144kvar -152 to +152kvar
Reactive power output at 440V Reactive power output at high	-36 to +36kvar	-40 t0 +46kvar	-57 to +57kvar	-76 to +76kvar -72 to +72kvar	-91 to +91kvar	-114 to +114kvar	-152 to +152kvar
voltage (>1kV) with step-up	-50 10 - 50 104	-45 10 145/041	-54 10 - 54170	-12 10 1121041		-100 10 + 100000	
transformer (415V secondary)							
				Electrical features			
Reaction / response time	Reaction	time <50 microseco		e time <100 microseco		e if working in selectabl	e mode).
Electrical system compatibility Inverter features				e 3-wire and 3-phase			
Controller / redundancy	3-level NPC inverter topology (IGBT). Switching frequency 20kHz. Each module has an independent controller. In parallel operation of several modules, if any module fails, the rest will continue in operation.						e in operation
Power factor correction	Optimized, stepless and continuously adjustable power factor correction, leading (capacitive) and lagging (inductive).						
Voltage support				and mitigation of voltage			
Protection functions		*		ervoltage, overtempera		, , ,	,
Stand-by & AutoStart	Stand-by stops	the IGBTs if required	d compensation curre	nt is below a certain lim	nit. AutoStart allows a	automatic start after a	network failure.
Remote discrete control				Remote run/stop.			
				k steps control (HPQ			
Operation	Dedicate			hyristor switch modules			nk steps.
Number of steps and size		o capacitor bank ste	eps per module. One	digital output can switcl Connections	n a step rated betwe	en 10kvar to 200kvar.	
Digital inputs	3 po	toptial free inputs 15	18\/DC or up to 277\//	Connections AC. Any input can be pr	ogrammed as trigge	r for stand by trip or a	arm
Digital outputs				ammed for trip, alarm,			
Current transformers (CT)	o potential free o			secondary (5A preferre			
CT location	Open loor		,	closed loop (current tr	,	,	s possible.
CT polarity				is possible to change t			
Number of CTs required				1 module: 3 CTs. Clos			
Connection of parallel modules	Unlimi	ed scalability. Paralle	l operation of any ratir	ig combinations up to 7	' modules per one H	MI. Unlimited amount o	fHMIs.
				Interfaces			
HMI / display				phical HMI (new langua			
Monitoring and reporting		On-site and re		bilities. Reports data o		s up to 30 days.	
Communication capability				hernet and Modbus TC a Ethernet or USB driv			
Software update				Mechanical features			
Mounting arrangement				e ready for cubicle or w			
Enclosure features				Ivanized steel enclosu			
Cooling method	Fo	rced air by easy to se	ervice automatically co	ontrolled DC cooling fai	ns adjusted by modu	le temperature via PW	М.
Losses				<2.3%		·	
Noise level (ISO 3746)	60dB	60dB	64dB	64dB	65dB	67dB	68dB
Dimensions WxHxD	225x850x500mm	225x850x500mm	225x850x500mm	225x850x500mm	225x850x500mm	225x1150x500mm	225x1150x500mr
Weight	70kg	70kg	70kg	70kg stallation and operati	70kg	110kg	110kg
Temperature (without derating)		+5°C to) +40°C.	stallation and operati	+5°C to +30°C.	+5°C to	+40°C
Humidity				um 85% RH, non-cond			
Altitude (without derating)				Up to 1000m.	<u> </u>		
Needed airflow for the module	350 m³/h	350 m³/h	400 m³/h	450 m³/h	500 m³/h	750 m³/h	1000 m³/h
Ventilation requirements				and above the module			
Main circuit fuses	NH00 gL/gG 63A	NH00 gL/gG 80A	NH00 gL/gG 100A	NH00 gL/gG 125A	NH00 gL/gG 160A	NH00 gL/gG 200A	NH00 gL/gG 250/
				Top or bottom.			
Cable entry							
			Sta	ndards and certificati	ons		
Electrical safety				ndards and certificati EN 50178			
Electrical safety Electromagnetic compatibility				ndards and certificati EN 50178 61000-6-4. Immunity:			
Electrical safety Electromagnetic compatibility				ndards and certificati EN 50178			
Electrical safety Electromagnetic compatibility Third party approvals			Emissions: EN/IEC	ndards and certificati EN 50178 61000-6-4. Immunity:	EN/IEC 61000-6-2.		
Electrical safety Electromagnetic compatibility Third party approvals			Emissions: EN/IEC	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL.	EN/IEC 61000-6-2.		
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES		200-480VAC +/-104	Emissions: EN/IEC	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Iules installed in cubi	EN/IEC 61000-6-2.	step-up transformer.	
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage			Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar	EN/IEC 61000-6-2. cles ges through suitable y rating combination		
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output			Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi	EN/IEC 61000-6-2. cles ges through suitable y rating combination		
Electrical safety Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test			Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltac parallel operation of ar ctrical features (cubi 2.5kV/1min	EN/IEC 61000-6-2. cles ges through suitable y rating combination		
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage			Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5KV/1min 6kV	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle)		
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current		Any output	Emissions: EN/IEC Moo % (auto sensing). Con is possible. Unlimited Ele 65kA n	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143kw	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak.	of modules.	vice
Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection	MC	Any output	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA rr eneral design rule is to	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143k select the protection le	EN/IEC 61000-6-2. cles yes through suitable y rating combination cle) A peak. evel 1.3 times the no	of modules.	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection	MCC	Any output	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA m eneral design rule is to g to local regulations,	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kW/1min 6kV ms (3 seconds) / 143ks select the protection le 16mm² Cu conductor i	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak. evel 1.3 times the no s the minimum record	of modules.	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection Earthing	MCG	Any output	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA m neral design rule is to g to local regulations, Mec	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143ks select the protection le 16mm ² Cu conductor i hanical features (cub	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak. evel 1.3 times the no s the minimum recordicte)	of modules.	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection Earthing Mounting arrangement	MCG	Any output CB or fuse-switch. Ge Accordin	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA rr eneral design rule is to g to local regulations, Mec	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143ks select the protection le 16mm² Cu conductor i hanical features (cub Free-standing cubicle.	EN/IEC 61000-6-2. cles y rating combination cle) A peak. vel 1.3 times the no s the minimum recordice)	of modules. minal current of the de mmended.	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection Earthing Mounting arrangement Enclosure IP class	MC	Any output CB or fuse-switch. Ge Accordin IP20 to IP42	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA n eneral design rule is to g to local regulations, Me c for indoor installation (ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143ks select the protection le 16mm ² Cu conductor i hanical features (cub	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak. evel 1.3 times the no s the minimum recon icle) or installation cubicle	of modules. minal current of the de mmended. es on request).	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection	MCG	Any output CB or fuse-switch. Ge Accordin IP20 to IP42	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA m eneral design rule is to g to local regulations, Mec for indoor installation (unized steel, light grey	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltaç parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV ms (3 seconds) / 143k select the protection le 16mm ² Cu conductor i hanical features (cub Free-standing cubicle. other classes or outdo	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak. evel 1.3 times the no s the minimum reco icle) or installation cubicle ials or colours on re	of modules. minal current of the de mmended. es on request).	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection Earthing Mounting arrangement Enclosure IP class Enclosure material and colour	MCC	Any output CB or fuse-switch. Ge Accordin IP20 to IP42	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA m neral design rule is to g to local regulations, Mec for indoor installation (inized steel, light grey 2m	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kV/1min 6kV select the protection lk 16mm² Cu conductor i hanical features (cub Free-standing cubicle. other classes or outdo RAL7035 (other mater	EN/IEC 61000-6-2. cles ges through suitable y rating combination cle) A peak. weel 1.3 times the no is the minimum record icle) or installation cubicle ials or colours on record ing.	of modules. minal current of the de mmended. es on request).	vice.
Electrical safety Electromagnetic compatibility Third party approvals ASSEMBLED MODULES Rated voltage Reactive power output Power frequency voltage test Impulse withstand voltage Short-circuit current Power circuit protection Earthing Mounting arrangement Enclosure IP class Enclosure material and colour Panel thickness and treatment	MC	Any output	Emissions: EN/IEC Moc % (auto sensing). Con is possible. Unlimited Ele 65kA rr eneral design rule is to g to local regulations, Me c for indoor installation (inized steel, light grey 2m For	ndards and certificati EN 50178 61000-6-4. Immunity: CE, UL. Ules installed in cubi Electrical ratings nection to higher voltag parallel operation of ar ctrical features (cubi 2.5kW/1min 6kV ms (3 seconds) / 143ks select the protection le 16mm² Cu conductor i hanical features (cub Free-standing cubicle. other classes or outdo RAL7035 (other mater m. Epoxy powder coat	EN/IEC 61000-6-2. cles yes through suitable y rating combination cle) A peak. vel 1.3 times the no s the minimum recor- icle) or installation cubicle ials or colours on re- ing. ger.	of modules. minal current of the de mmended. es on request). quest).	vice.



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Technical specifications – 500-690VAC devices

LOOSE MODULES	A2-50-E	A2-60-E	A2-75-E	A2-100-E	A2-120-E	
			Electrical ratings			
Rated voltage	500-69	0VAC +/-10% (auto sensing)	. Connection to higher voltages t	through suitable step-up tra	insformer.	
Rated frequency	10 to 1 10 or 1	50 to 1 50 to 20	50/60Hz (auto sensing).	07 10 107 1000		
Reactive power output at 500V Reactive power output at 600V	-43 to +43kvar -52 to +52kvar	-52 to +52kvar -62 to +62kvar	-65 to +65kvar -78 to +78kvar	-87 to +87kvar -104 to +104kvar	-104 to +104kvar -125 to +125kvar	
Reactive power output at 660V	-57 to +57kvar	-69 to +69kvar	-86 to +86kvar	-114 to +114kvar	-137 to +137kvar	
leactive power output at 690V	-60 to +60kvar	-72 to +72kvar	-90 to +90kvar	-120 to +120kvar	-143 to +143kvar	
leactive power output at high	-60 to +60kvar	-72 to +72kvar	-90 to +90kvar	-120 to +120kvar	-143 to +143kvar	
oltage (>1kV) with step-up						
ransformer (690V secondary)						
Reaction / response time	Popotion time <5	D miaragaganda / Quarall rag	Electrical features	(1 potwork ovala if working	in acleatable mode)	
ectrical system compatibility	Iteaction time <5		AC modules) and 3-phase 4-wi		In selectable mode).	
nverter features			rter topology (IGBT). Switching			
Controller / redundancy	Each module has an independent controller. In parallel operation of several modules, if any module fails, the rest will continue in operation.					
ower factor correction	Optimized, stepless and continuously adjustable power factor correction, leading (capacitive) and lagging (inductive).					
/oltage support Protection functions	Reduction of voltage variations (sags and swells) and mitigation of voltage fluctuations (flicker) via reactive power injection. Overcurrent, overvoltage, undervoltage, overtemperature and ripple circuit overload.					
Stand-by & AutoStart	Stand-by stops the IGB		current is below a certain limit. A		start after a network failure	
temote discrete control			Remote run/stop.			
		Capacito	r bank steps control (HPQ fun	ctionality)		
Operation			or thyristor switch modules of			
lumber of steps and size	5 capa	citor bank steps per module.	One digital output can switch a s	step rated between 10kvar t	to 200kvar.	
)igital inputs) natantial f		Connections	mmod as trigger for atra-	by trip or clorm	
Digital inputs			77VAC. Any input can be progra programmed for trip, alarm, runr			
Current transformers (CT)	o potonia nee outputs D		or 5A secondary (5A preferred).			
T location	Open loop (current		and closed loop (current trans			
T polarity			ity, it is possible to change the lo	11.2 /		
lumber of CTs required			on of 1 module: 3 CTs. Closed le			
connection of parallel modules	Unlimited scala	bility. Parallel operation of any	rating combinations up to 7 mo	dules per one HMI. Unlimite	ed amount of HMIs.	
		7" touch a groop multilingu	Interfaces	een he added on regulast)		
MI / display Ionitoring and reporting	0		al graphical HMI (new languages capabilities. Reports data of pow			
communication capability		In site and remote monitoring	Ethernet and Modbus TCP.		uuyo.	
oftware update			Via Ethernet or USB drive.			
			Mechanical features			
Nounting arrangement			odule ready for cubicle or wall in			
nclosure features	Forced air		20 galvanized steel enclosure in ally controlled DC cooling fans a		ture via PWM	
.osses	101000 01					
			<2.8%			
loise level (ISO 3746)	67dB	67dB	<2.8% 67dB	67dB	68dB	
imensions WxHxD	225x1150x500mm	225x1150x500mm	67dB 225x1150x500mm	225x1150x500mm	68dB 225x1150x500mm	
imensions WxHxD			67dB 225x1150x500mm 120kg		68dB	
limensions WxHxD Veight	225x1150x500mm	225x1150x500mm	67dB 225x1150x500mm 120kg Installation and operation	225x1150x500mm	68dB 225x1150x500mm	
Pimensions WxHxD Veight Cemperature (without derating)	225x1150x500mm	225x1150x500mm 120kg	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C.	225x1150x500mm 120kg	68dB 225x1150x500mm	
limensions WxHxD Veight emperature (without derating) lumidity	225x1150x500mm	225x1150x500mm 120kg	67dB 225x1150x500mm 120kg Installation and operation	225x1150x500mm 120kg	68dB 225x1150x500mm	
Dimensions WxHxD Veight Temperature (without derating) lumidity Vititude (without derating) leeded airflow for the module	225x1150x500mm	225x1150x500mm 120kg M 350 m³/h	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h	225x1150x500mm 120kg ng. 450 m³/h	68dB 225x1150x500mm	
Ioise level (ISO 3746) Dimensions WxHxD Veight Gemperature (without derating) Iumidity Vititude (without derating) Ieeded airflow for the module fentilation requirements	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m ³ /h elow and above the module requ	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation.	68dB 225x1150x500mm 120kg 500 m³/h	
Dimensions WxHxD Veight Femperature (without derating) Humidity Vitiude (without derating) leeded airflow for the module leeded airflow for the module Ain circuit fuses	225x1150x500mm 120kg	225x1150x500mm 120kg M 350 m³/h	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A	225x1150x500mm 120kg ng. 450 m³/h	68dB 225x1150x500mm 120kg	
Vimensions WxHxD Veight emperature (without derating) lumidity Vititude (without derating) leeded airflow for the module fentilation requirements	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom.	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A	68dB 225x1150x500mm 120kg 500 m³/h	
Dimensions WxHxD Veight emperature (without derating) lumidity Vitiude (without derating) leeded airflow for the module fentilation requirements Aain circuit fuses cable entry	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A	68dB 225x1150x500mm 120kg 500 m³/h	
Vimensions WxHxD Veight Iumidity Ititude (without derating) Ititude (without derating) Ieeded airflow for the module Ventilation requirements Iain circuit fuses	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom.	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A	68dB 225x1150x500mm 120kg 500 m³/h	
Veight Veight emperature (without derating) lumidity lititude (without derating) leeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A	68dB 225x1150x500mm 120kg 500 m³/h	
Veight Veight emperature (without derating) lumidity litude (without derating) leeded airflow for the module entilation requirements lain circuit fuses lain circuit fuses lable entry lectrical safety lectromagnetic compatibility hird party approvals	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN/ CE, UL.	225x1150x500mm 120kg ng. 450 m³/h Jired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h	
imensions WxHxD /eight emperature (without derating) lumidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals	225x1150x500mm 120kg 350 m³/h	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 WIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles	225x1150x500mm 120kg ng. 450 m³/h Jired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h	
imensions WxHxD /eight emperature (without derating) lumidity litiude (without derating) leeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) umidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES ated voltage	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-69	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN// CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) umidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES ated voltage	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-69	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD leight emperature (without derating) umidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES ated voltage eactive power output	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-69	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN// CE, UL. Modules installed in cubicles Eloctrical ratings Connection to higher voltages t parallel operation of any rating c	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD leight emperature (without derating) umidity ltitude (without derating) eeded airflow for the module entilation requirements able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES ated voltage eactive power output ower frequency voltage test npulse withstand voltage	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-69	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef 0VAC +/-10% (auto sensing) output is possible. Unlimited	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) umidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES sated voltage eactive power output ower frequency voltage test mpulse withstand voltage hort-circuit current	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-65 Any	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Et 00VAC +/-10% (auto sensing) r output is possible. Unlimited	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN// CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages I parallel operation of any rating c Electrical features (cubicle) 2.5kV/Imin 6kV 5kA rms (3 seconds) / 143kA pe	225x1150x500mm 120kg ng. 450 m³/h iired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) lumidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES ated voltage eactive power output ower frequency voltage test npulse withstand voltage hort-circuit current ower circuit protection	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-65 Any	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef 0VAC +/-10% (auto sensing) output is possible. Unlimited 66 e-switch. General design rule	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/EC 61000-6-4. Immunity: EN// CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical factures (cubicle) 2.5kV/1min 6kV 5kA rms (3 seconds) / 143kA pe is to select the protection level	225x1150x500mm 120kg ng. 450 m³/h iired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
Inmensions WxHxD Weight Immensions WxHxD Weight Immidity Ititude (without derating) Ititude (without derating) Ieeded airflow for the module Ientilation requirements Iain circuit fuses Isable entry Iectrical safety Iectrical sa	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-65 Any	225x1150x500mm 120kg Mi 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef 0VAC +/-10% (auto sensing) output is possible. Unlimited 65 e-switch, General design rule According to local regulati	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages 1 parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV 5kA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mm² Cu conductor is the	225x1150x500mm 120kg ng. 450 m³/h jired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
himensions WxHxD Weight emperature (without derating) lumidity lititude (without derating) leeded airflow for the module entilation requirements fain circuit fuses table entry liectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES steed voltage teactive power output ower frequency voltage test mpulse withstand voltage thort-circuit current ower circuit protection iarthing	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-65 Any	225x1150x500mm 120kg Mi 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef 0VAC +/-10% (auto sensing) output is possible. Unlimited 65 e-switch, General design rule According to local regulati	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV \$kA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mm² Cu conductor is the Mechanical features (cubicle)	225x1150x500mm 120kg ng. 450 m³/h jired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
Inmensions WxHxD Weight Immensions WxHxD Weight Immediate (without derating) Iumidity Ititude (without derating) Ieeded airflow for the module entilation requirements Iain circuit fuses able entry Iectrical safety Iectromagnetic compatibility Iectromagnetic compatibility Iectromagnetic compatibility Iectromagnetic compatibility SSEMBLED MODULES Exacted voltage Ieactive power output Iower frequency voltage test mpulse withstand voltage Iower circuit protection Iarthing Iounting arrangement	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-66 Any MCCB or fus	225x1150x500mm 120kg M 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: Ef 00VAC +/-10% (auto sensing) output is possible. Unlimited 65 e-switch. General design rule According to local regulati	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 V/IEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV 5kA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mr ² Cu conductor is the Mechanical features (cubicle) Free-standing cubicle.	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
Dimensions WxHxD Veight emperature (without derating) lumidity Vititude (without derating) leeded airflow for the module fentilation requirements Aain circuit fuses cable entry lectrical safety	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-66 Any MCCB or fus	225x1150x500mm 120kg Mi 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: El 0VAC +/-10% (auto sensing) output is possible. Unlimited e-switch. General design rule According to local regulati P20 to IP42 for indoor installa	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV \$kA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mm² Cu conductor is the Mechanical features (cubicle)	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2. through suitable step-up tra ombination of modules.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) lumidity litude (without derating) leeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES lated voltage leeactive power output ower frequency voltage test mpulse withstand voltage hort-circuit current ower circuit protection arthing lounting arrangement nclosure IP class nclosure material and colour	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-66 Any MCCB or fus	225x1150x500mm 120kg Mi 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: El 0VAC +/-10% (auto sensing) output is possible. Unlimited e-switch. General design rule According to local regulati P20 to IP42 for indoor installa	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/tmin 6kV skA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mm ² Cu conductor is the Mechanical features (cubicle) Free-standing cubicle. Free-standing cubicle. Tom, 2mm. Epoxy powder coating.	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2. through suitable step-up tra ombination of modules.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
imensions WxHxD /eight emperature (without derating) umidity lititude (without derating) eeded airflow for the module entilation requirements lain circuit fuses able entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES steed voltage eactive power output ower frequency voltage test mpulse withstand voltage hort-circuit current ower circuit protection arthing lounting arrangement nclosure IP class nclosure material and colour anel thickness and treatment ooling method	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-66 Any MCCB or fus	225x1150x500mm 120kg Mi 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: El 0VAC +/-10% (auto sensing) output is possible. Unlimited e-switch. General design rule According to local regulati P20 to IP42 for indoor installa	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/1min 6kV KA ms (3 seconds) / 143kA pe is to select the protection level Free-standing cubicle. Free-standing cubicle. Tom gray RAL7035 (other materials Zmm. Epoxy powder coating. Forced air or heat exchanger.	225x1150x500mm 120kg ng. 450 m³/h uired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2. through suitable step-up tra ombination of modules.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	
Animensions WxHxD Weight Weight immensions WxHxD Ititude (without derating) lumidity Ititude (without derating) leeded airflow for the module entilation requirements lain circuit fuses table entry lectrical safety lectromagnetic compatibility hird party approvals SSEMBLED MODULES tated voltage teactive power output tower frequency voltage test mpulse withstand voltage hort-circuit current tower circuit protection arthing founting arrangement inclosure IP class	225x1150x500mm 120kg 350 m³/h NH00 gL/gG 63A 500-66 Any MCCB or fus	225x1150x500mm 120kg Ma 350 m³/h 300mm free space b NH00 gL/gG 80A Emissions: El 00VAC +/-10% (auto sensing)) routput is possible. Unlimited 68 e-switch. General design rule According to local regulati P20 to IP42 for indoor installa Galvanized steel, light	67dB 225x1150x500mm 120kg Installation and operation +5°C to +40°C. aximum 85% RH, non-condensi Up to 1000m. 400 m³/h elow and above the module requ NH00 gL/gG 100A Top or bottom. Standards and certifications EN 50178 VIEC 61000-6-4. Immunity: EN/ CE, UL. Modules installed in cubicles Electrical ratings Connection to higher voltages t parallel operation of any rating c Electrical features (cubicle) 2.5kV/tmin 6kV skA rms (3 seconds) / 143kA pe is to select the protection level ons, 16mm ² Cu conductor is the Mechanical features (cubicle) Free-standing cubicle. Free-standing cubicle. Tom, 2mm. Epoxy powder coating.	225x1150x500mm 120kg ng. 450 m ³ /h ired for air ventilation. NH00 gL/gG 125A IEC 61000-6-2. through suitable step-up transition of modules. ak. 1.3 times the nominal curre a minimum recommended. stallation cubicles on request.	68dB 225x1150x500mm 120kg 500 m³/h NH00 gL/gG 160A	

