

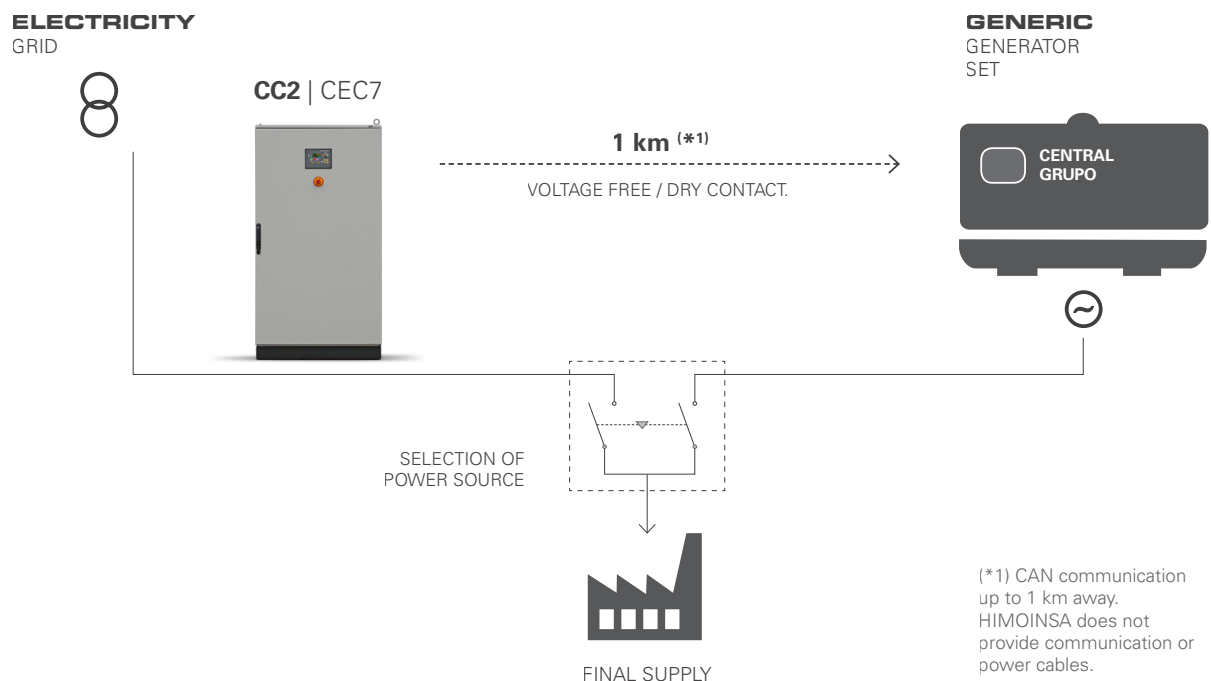


MAIN FEATURES

ATS Model	CC2*
Amperage	160 A
Controller Model	CEC7
Switching Type	Pair of interlocked 4-way switches
Dimensions LxWxH (mm)	1000 x 600 x 300
Weight (kg)	54
Degree of protection	IP55, NEMA 12
In Accordance With	NF EN 60947 VDE 0660 BS EN 60947 JEM 1038 IEC60947-1 & IEC60947-4

* Zero at mains return

SWITCHING DIAGRAM



MAXIMUM DISTANCE: 1000 m



For communications of over 100 metres a supplemental power supply is necessary, which is equipped with an auxiliary battery that maintains the power supply in both modules, from the time when a power failure occurs until the generator set starts up.

This battery supplies two modules of the panel:

- 1- The power module, Inputs and outputs of change-over PHR7.
- 2- CEC7 switching control unit.

MAIN COMPONENTS



1) **Metal cabinet.** Made from high-quality sheet metal. IP55 protection rating which guarantees sealing and insulation levels.

2) **CEC7 Control Unit** & 3) **Measurements module.** The control unit and the measurements module are responsible for monitoring the quality of the grid signal; they are able to order the start-up of an external generator set and manage its shutdown once the grid supply is re-established. It has a 4-line graphic display with language selection to view the status of the generator set.

4) **Manual Emergency stop button.**

5) **Contactor.** Pair of mechanically interlocked four-way switches and with status contacts.
(see table pg. 4 - 4 Pole Contactors Characteristics)

6) **Grounding line connection.** Ground connection electrical installation with connection ready for ground spike (not supplied).

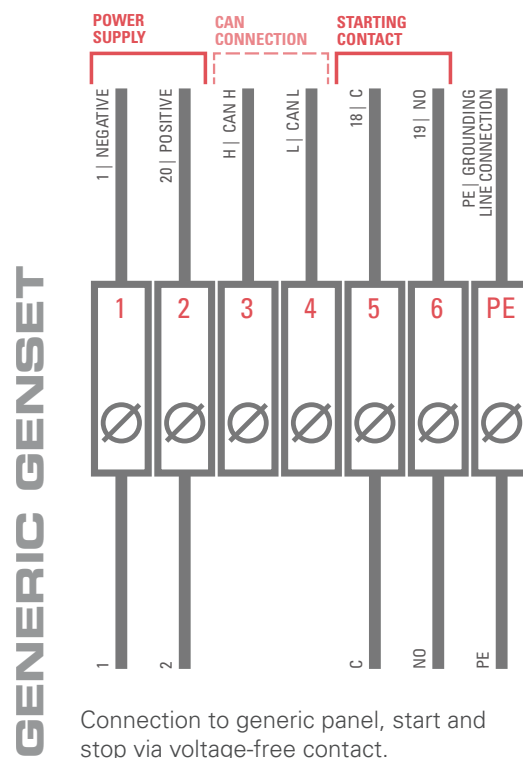
4 POLE CONTACTORS CHARACTERISTICS

GENERAL CHARACTERISTICS			
		Unit	
Type			Tetrapolar Contactor
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1500
Conforming to standards			NFCEN60947, VDE 0660, BSEN 60947, JEM1038, IEC60947-1 & IEC60947-4
Approvals			UL, CSA, IEC
Degree of protection	Standard version		"TH"
Ambient air temperature	Storage	°C	-60 to +80
(Around the device)	Operation	°C	-5 to +55 (0.8 to 1.1Uc)
	Permissible	°C	-50 to +70, pfor operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating position	Without derating		±30° possible, in relation to normal vertical mounting plane

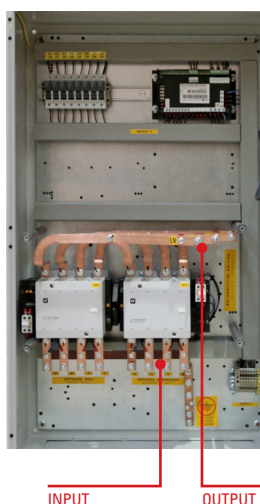
POLE CHARACTERISTICS			
		Unit	
Rated current (Ie)	AC3 $\theta \leq 55^{\circ}\text{C}$	A	185
Rated operating Voltage	Up to	V	1000
Frequency limits	Of the operational current	Hz	25-200
Rated thermal current (Ith)	$\theta \leq 40^{\circ}\text{C}$	A	275
Rated making capacity	Irms conforming to IEC-60947-4	A	2100
Rated breaking capacity	Irms conforming to 220-440V	A	1800
	IEC-60947-4 500V	A	1600
	IEC-60947-4 660-690V	A	1200
Average impedance per pole	At Ith and 50Hz Milli Ω	Max	0.36
Power dissipation per pole for the above operational currents	AC-3	W	12
Tightening torque	Power circuit	Nm	18

CONTROL CIRCUIT CHARACTERISTICS			
			Unit
Rated control circuit voltage (Uc)	50 or 60 Hz	V	24 to 600
Control voltage limits ($\theta < 55^{\circ}\text{C}$)	50 or 60 Hz Coil	Operational	0.85 - 1.10 Uc
		Drop out	0.35 - 0.55 Uc
Average consumption at 20°C and at Uc, AC 50 / 60 Hz	50/60Hz Coil	Operational	
	Inrush	50 Hz Coil	VA 550
		60 Hz Coil	VA 660
		40-400 Hz Coil	VA -
		COS φ	0.28
	Sealed	50 Hz Coil	VA 45
		60 Hz Coil	VA 55
		40-400 Hz Coil	VA -
		COS φ	0.28
Average operating time at Uc	Closing time "C"	msec	23-35
	Opening time "O"	msec	5-15
Mechanical life Uc (mechanical durability) in millions of operating cycles	50 or 60 Hz Coil		10
	50/60 Hz Coil or 50 Hz		10
Maximum operating rate	In operating cycle/hour		2400
Tightening torque	Power circuit	Nm	1.2

TERMINAL CONNECTION DIAGRAM



POWER CIRCUIT DIAGRAM



	Connection Type	Max. no of cables per phase
MAINS INPUT	Copper bar	2
GENSET INPUT	Copper bar	2
POWER OUTPUT	Copper bar	2

AUTOMATIC TRANSFER SWITCH BETWEEN GRID AND GENSET

The CEC7 control unit monitors the quality of the grid signal and can order an external generator set to start up and to then handle its close-down once the grid supply has been reinstated. It is possible to integrate the management of the genset by using the CEM7 (or CEM7G) control unit which allows you to view the status of the generator set (measurements, alarms, etc.) from the controller's interface. If you use any other control unit model in the generator set, the generator set start-up is ordered by free voltage contact. It has a 4-line graphic display with language selection to show the status of the generator set.



● Standard

○ Optional

CEC7	
Genset readings	
Voltage between phases	●
Voltage between phase and neutral	●
Currents	●
Frequency	●
Apparent power (kVA)	●
Active power (kW)	●
Reactive power (kVAr)	●
Power Factor	●
Mains Readings	
Voltage between phases	●
Voltage between phase and neutral	●
Currents	●
Frequency	●
THD	●
Engine Protection Devices	
Emergency Stop	●
Alternator Protection Devices	
High frequency	●
Low frequency	●
High voltage	●
Low voltage	●
Asymmetry among phases	●
Incorrect phases sequence	●
Unit signal failure	●
Counters	
Total hour counter	●
Partial hour counter	●
Kilowatt meter	●
Valid start-up counter	●
Unsuccessful start-up counter	●
Maintenance	●
Power (Mains)	●
Communications	
Modbus TCP	○
Modbus RS485	○
C2LAN Ethernet	○
Fleet Manager (C2CLOUD required)	○
C2CLOUD Modem GSM/3G	○
SNMP	○
PROFIBUS	○

CEC7	
Performance	
Alarm history (100 standard)	●
External start-up	●
Start-up inhibited	●
Start-up due to mains failure	●
Enabling the genset contactor	●
Mains and Genset breaker activation	●
Control of the transfer of fuel	● (CEM7)
Control of the engine temperature	● (CEM7)
Forced genset operation	● (CEM7)
Free programmable alarms	● (CEM7)
Genset start-up in test mode function	●
Genset in reserve	●
Start-up by load demand	●
Multilingual	●
Special Applications	
GPS location	○ (CEM7)
RAM7	○ (CEM7)
Repetitive panel	○ (CEM7)
Timer	●



CEC7: feature available by adding CEC7 to the installation

Note: All the protections can be programmed to perform "Warning" or "Stop engine WITH or WITHOUT cooling".

The AS5+CC2 configuration will have all the functionality of the CEM7 control unit plus the grid readings of the CEC7 control unit.