



MAIN FEATURES

ATS Model	CC2*
Amperage	40 A
Controller Model	CEC7
Switching Type	Pair of interlocked 4-way switches
Dimensions LxWxH (mm)	700 x 500 x 250
Weight (kg)	27
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

ELECTRICITY
GRID



CC2 | CEC7



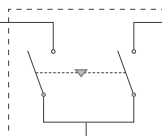
1 km (*1)

VOLTAGE FREE / DRY CONTACT.

GENERIC
GENERATOR
SET



SELECTION OF
POWER SOURCE



FINAL SUPPLY

(*1) CAN communication
up to 1 km away.
HIMOINSA does not
provide communication or
power cables.



MAXIMUM DISTANCE: 1000 m

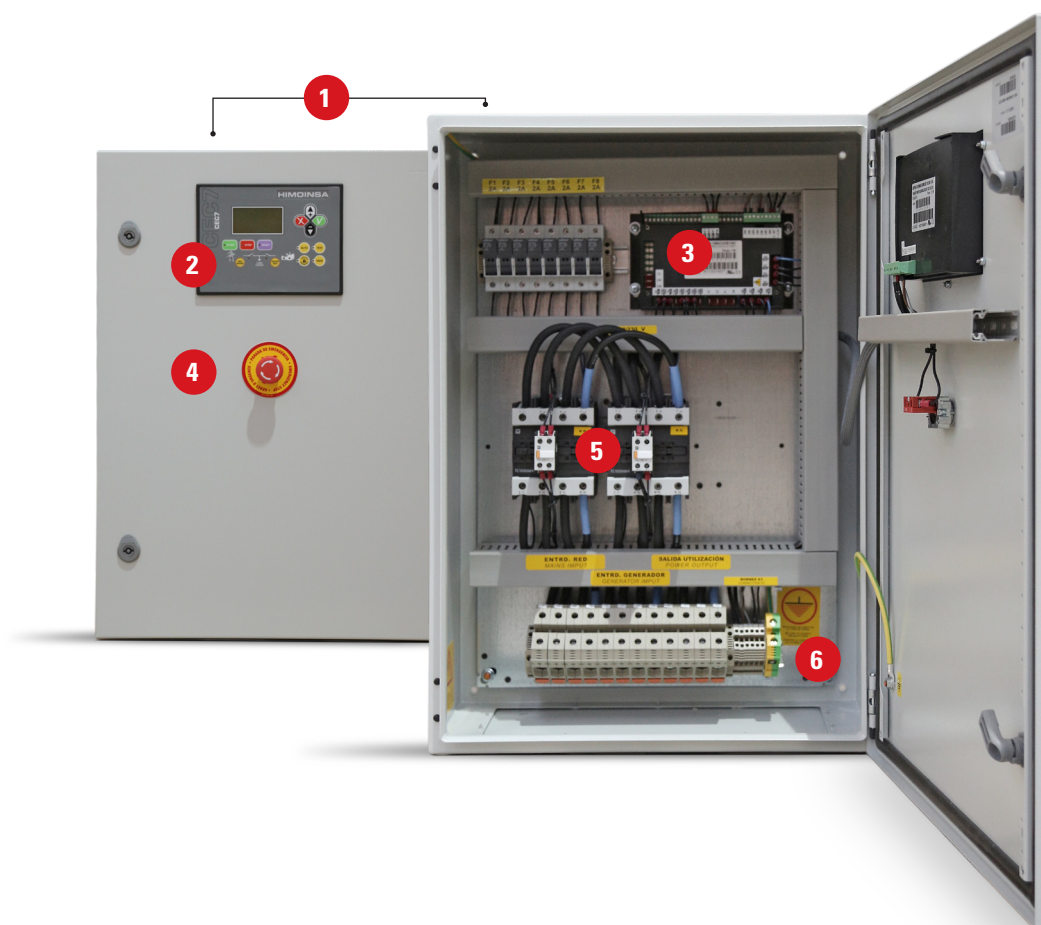


For communications of over 100 metres a supplemental power supply is necessary, which is equipped with an auxiliary battery that maintains the power supply in both modules, from the time when a power failure occurs until the generator set starts up.

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 with AC operating coil Characteristics)

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

4 POLE CONTACTORS WITH AC OPERATING COIL CHARACTERISTICS

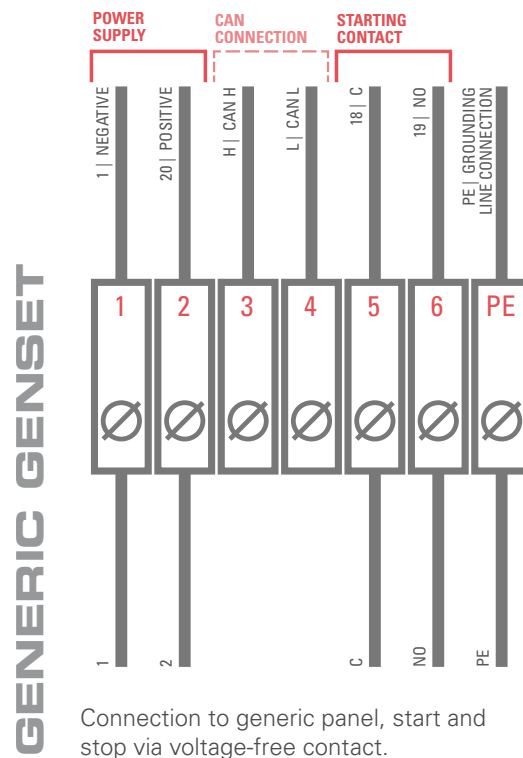
GENERAL CHARACTERISTICS			
		Unit	
Type			Tetrapolar Contactor
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1000
Conforming to standards			NFC EN 60947, VDE0660, BSEN60947, IEC 60947 & IS 13947
Approvals			UL, CSA
Degree of protection	Conforming to VDE 0106		Protection against direct finger contacts
Protective treatment	Standard version		"TH"
Ambient air temperature	Storage	°C	-60 to +80
(Around the device)	Operation	°C	-5 to +55 (0.8 to 1.1 Uc)
	Permissible	°C	-40 to +70, for 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 up to 440V @ 55°C	A	25
Rated operating Voltage	Up to	V	690
Frequency limits	Of the operational current	Hz	25 - 400
Rated thermal current (Ith)	$\theta \leq 40^{\circ}\text{C}$	A	45
Rated making capacity	Irms conforming to IEC-60947-4	A	450
Rated breaking capacity	Irms conforming to 220-440V	A	450
	IEC-60947-4 500V	A	400
	IEC-60947-4 660-690V	A	180
Average impedance per pole	At Ith and 50Hz Milli Ω	Max	2
Power dissipation per pole for the above operational currents	AC-3	W	1.25

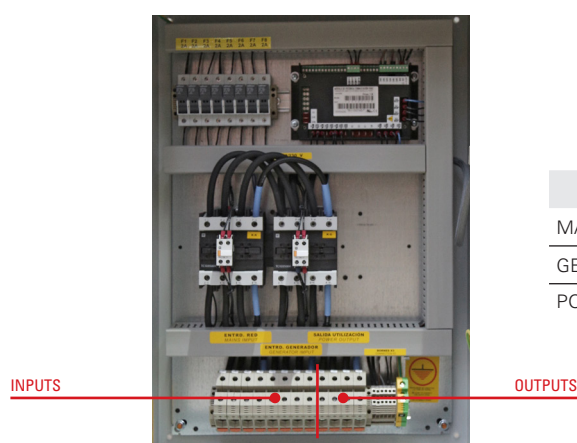
CONTROL CIRCUIT CHARACTERISTICS					
			Unit		
Rated control circuit voltage (Uc)		50 o 60 Hz	V	12 to 660	
Control voltage limits (θ < 55°C)	50 o 60 Hz Coil	Operational		0.8 - 1.1 Uc	
		Drop out		0.3 - 0.6 Uc	
Average consumption at 20°C and at Uc	50/60Hz Coil	Operational		0.85 - 1.1 Uc at 60Hz	
	AC 50 Hz	Inrush	50 Hz Coil	VA	90
			50/60 Hz Coil	VA	100
			COS ϕ		0.75
		Sealed	50 Hz Coil	VA	7.5
			50/60 Hz Coil	VA	8.5
			COS ϕ		0.3
	AC 60 Hz	Inrush	60 Hz Coil	VA	100
			50/60 Hz Coil	VA	100
			COS ϕ		0.75
		Sealed	60 Hz Coil	VA	8.5
			50/60 Hz Coil	VA	8.5
			COS ϕ		0.3
	Average operating time at Uc	Closing time “C”	msec	15-24	
		Opening time “O”	msec	05-19	
	Mechanical life Uc (mechanical durability) in millions of operating cycles	50 or 60 Hz Coil		16	
50/60 Hz Coil or 50 Hz			12		
Maximum operating rate	In operating cycle/hour		3600		

INTEGRAL AUXILIARY CONTACT CHARACTERISTICS				
			Unit	
Rated thermal current (Ith)	$\theta < 55^{\circ}\text{C}$		A	10
Rated operational voltage (Ue)	Up to		V	660

TERMINAL CONNECTION DIAGRAM



POWER CIRCUIT DIAGRAM



	Connection Type	Max. no of cables per phase
MAINS INPUT	Connection terminals	1 x 10 mm ²
GENSET INPUT	Connection terminals	1 x 10 mm ²
POWER OUTPUT	Connection terminals	1 x 10 mm 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.