



**Optional
ATS Panels
Range: 50-100 kVA**


QC1.0090A

Separate ATS panel, 4P - 90A contactors (60
kVA 400V - 30 kVA 230V) Dim. 60 x 25 x 80 cm -
48 kg. (ex QC1.060)

Image for demonstration purposes

Image for demonstration purposes



Automatic Transfer Switch QC1

QC1.0060A/0090A/0125A/0250A

Standard Equipment and features

Carpentry

- Folded sheet steel
- Painting with epoxy powder high resistance RAL 7035
- Power inlet from the bottom
- Key-locked door

Installation

- Wall mounted (material for wall mounting excluded)

Power connections

- Mains contactor 4Poles
- Genset contactor 4Poles
- Motorized Change-over (only QC1.165)

Auxiliary connections

- DIN terminal box on guard with screws for cable section. 4mmq
- Protection fuses
- Pre-heater switch 10A

Handling

- Lifting and moving without mechanical means

QC Control Board

- Control panel with LED indicators for signaling
- Rotary switch status (GS, MAINS, LOCKED, AUTOMATIC MODE)
- Block diagram printed on the panel, with description of symbols

Documentation

- EC conformity declaration
- Test report
- User and maintenance manuals
- Wiring diagrams

Normatives

- All ELCOS electrical panels are compliant to the EC normatives
- 2004/108/EC Electromagnetic compatibility
- Directive BT n. 2006/95/EC and subsequent amendments
- Norms CEI EN 60439-1 (CEI 17-13) and subsequent amendments
- Directive ROHS 2011/65/EC restriction of hazardous substances
- Factory-designed systems built in Elcos ISO 9001:2008

Terms used:

- ATS - Automatic Transfert Switch
- G.S. - Gen Set
- QPE - Elcos Polyvalent Panel
- QLE - Multifunction Panel

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PANEL - TECHNICAL DATA

Technical parameters:		QC1.0060A	QC1.0090A	QC1.0125A	QC1.0250A
Nonimal power @400V three-phase	kVA	40	60	90	165
Nominal Power @230V three-phase	kVA	22	35	50	90
Operational current (ie) AC-22A*	A	60***	90	125	250
Minimum cables cross section per phase	mmq	1x16	1x35	1x50	1x120
Operational voltage	V	230/400			
Auxiliary voltage	V	12/24/230			
Frequency	HZ	50/60 ±20%			
Operative temperature	°C	-20 +40			
Maximum Humidity	%	80 (Not condensed)			
Dimensions (LxWxH)	cm	60x25x80			
Weight	Kg	47	48	48	56
Degree of protection**	IP	54			
Degree of protection (internal)	IP	20			
Installation type		Wall mounted			
Switching type		Contactors			Motorized Change-over
Numbers of poles	n.	4			

* AC22A - Operation of mixed resistive and inductive loads, including moderate overloads (Ic=3xIn, Ia=3xIn, PF=0.65, Ic=1xIn, Ia=1xIn, PF=0.8)

** The QC is not suitable for outdoor installation directly exposed to the atmospheric agents. Otherwise, the warranty shall not be considered valid.

*** Use cables from 16mmq headed with fork terminal lugs.

CONTACTORS - TECHNICAL DATA

		QC1.0060A	QC1.0090A	QC1.0125A	
ATS model					
Brand		LOVATO			
Model		BF38 T4 A	11 BF50 40	11 BF80 40	
Poles	N	4	4	4	
Thermal current in open air(≤40°C)	A	60	90	125	
Operational current Ie AC3 (≤440V ≤55°C)	A	38	50	80	
Rated short-time withstand current 10s (IEC/EN 60947-1) Icw	A	320	390	480	
Rated short-time making capacity (Icm)	A	380	800	1200	
Rated breaking capacity (≤440V)	A	304	800	1200	
Rated insulation voltage Ui	V	690	690	690	
Rated impulse withstand voltage Uimp	KV	6	8	8	
Terminal bolt size		Screw M4 with washer	Socket terminal: screw M6 – Allen 4		
Degree protection of terminals power (IEC/EN 60529)		IP 20			
Mechanical lifetime	cycles	15 millions			
Electrical lifetime (Ie at 400V in AC3)	cycles	1,3 millions			

MOTORIZED CHANGE-OVER - TECHNICAL DATA

		QC1.0250A			
ATS model					
Brand		ABB			
Model		OTM250E4M230C			
Rated operational voltage	Vac	230			
Rated breaking capacity (≤500V)	A	2000			
Rated short-time withstand current Icw ≤1000V 0.25s	KA	15			
Short-circuit breaking capacity Icm ≤1000V	KA	30			
Rated insulation voltage Ui	V	1000			
Mechanical lifetime	cycles	10.000			

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OPERATING LOGIC

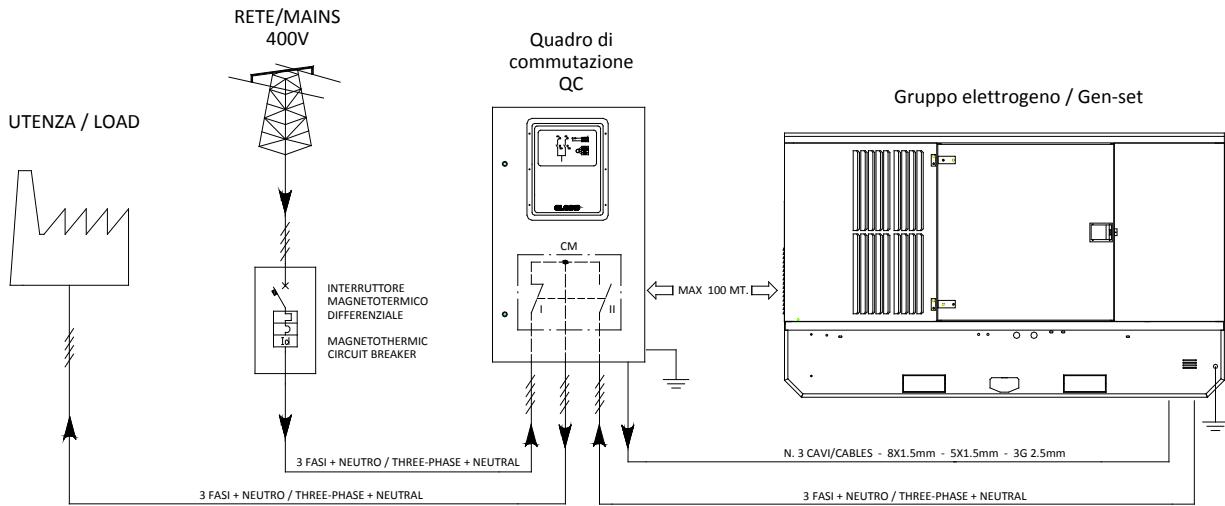


Fig. 1 - QC Block diagram

MAINS PRESENCE:

G.S. Key position	ATS Switch position (Fig. 1)			
	LOAD ON G.S.	LOAD ON MAINS	LOCKED	AUTOMATIC
OFF / STOP		Contactor I - CLOSE Contactor II - OPEN	Contactor I - CLOSE Contactor II - OPEN	Contactor I - CLOSE Contactor II - OPEN
MANUAL (G.S. running) / START	Contactor I - OPEN Contactor II - CLOSE		the G.S. does not start (Useful when doing maintenance)	
AUTOMATIC		Contactor I - CLOSE Contactor II - OPEN		

MAINS FAILURE*:

G.S. Key position	ATS Switch position (Fig. 1)			
	LOAD ON G.S.	LOAD ON MAINS	LOCKED	AUTOMATIC
OFF				
MANUAL (G.S. running) / START	Contactor I - OPEN Contactor II - CLOSE		the G.S. does not start (Load not powered)	
AUTOMATIC				Contactor I - OPEN Contactor II - CLOSE

* Power failure or values beyond the thresholds (settings set on the board of the G.S.)

QC PANEL NOTES:

- It allows the switching between MAINS / G.S.
- Electrical and mechanical interlocking ensures that the two sources (MAINS and G.S.) can never simultaneously supply the load.

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FEATURES

The **QC** panel is made from folded sheet steel, painted with epoxy powder high resistance RAL 7035. The cable entry is placed at the bottom and accessible by removing the cover plate.

QC Control Board:

The QC control board is composed of a 4-position selector switch and LED indicators described below:



SIGNAL LED:

1. **PR** - presence of mains supply
2. **PG** - G.S. is running
3. **TLG** - G.S. contactor status
4. **TLR** - MAINS contactor status
5. G.S. **ALLARMED**
6. G.S. **LOCKED**

SWITCH POSITION:

7. "LOAD ON G.S."
8. "LOAD ON MAINS"
9. "LOCKED"
10. "AUTOMATIC"

LAY-OUT

EXTERNAL VIEW

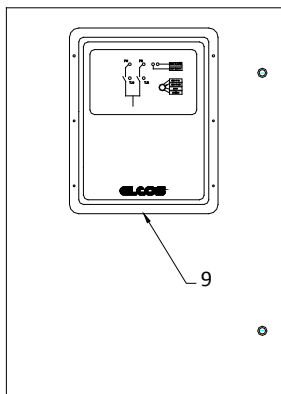
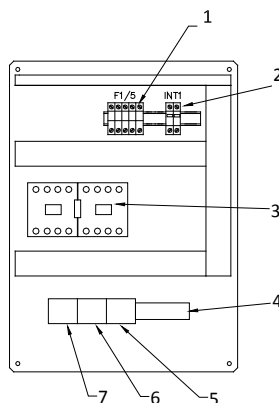
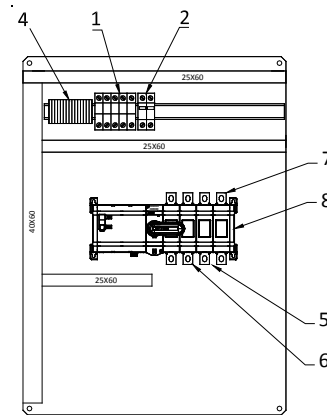


Fig. 2 - QC Panel - Lay-out

INTERNAL VIEW QC1.60 ÷ 125



INTERNAL VIEW QC1.250



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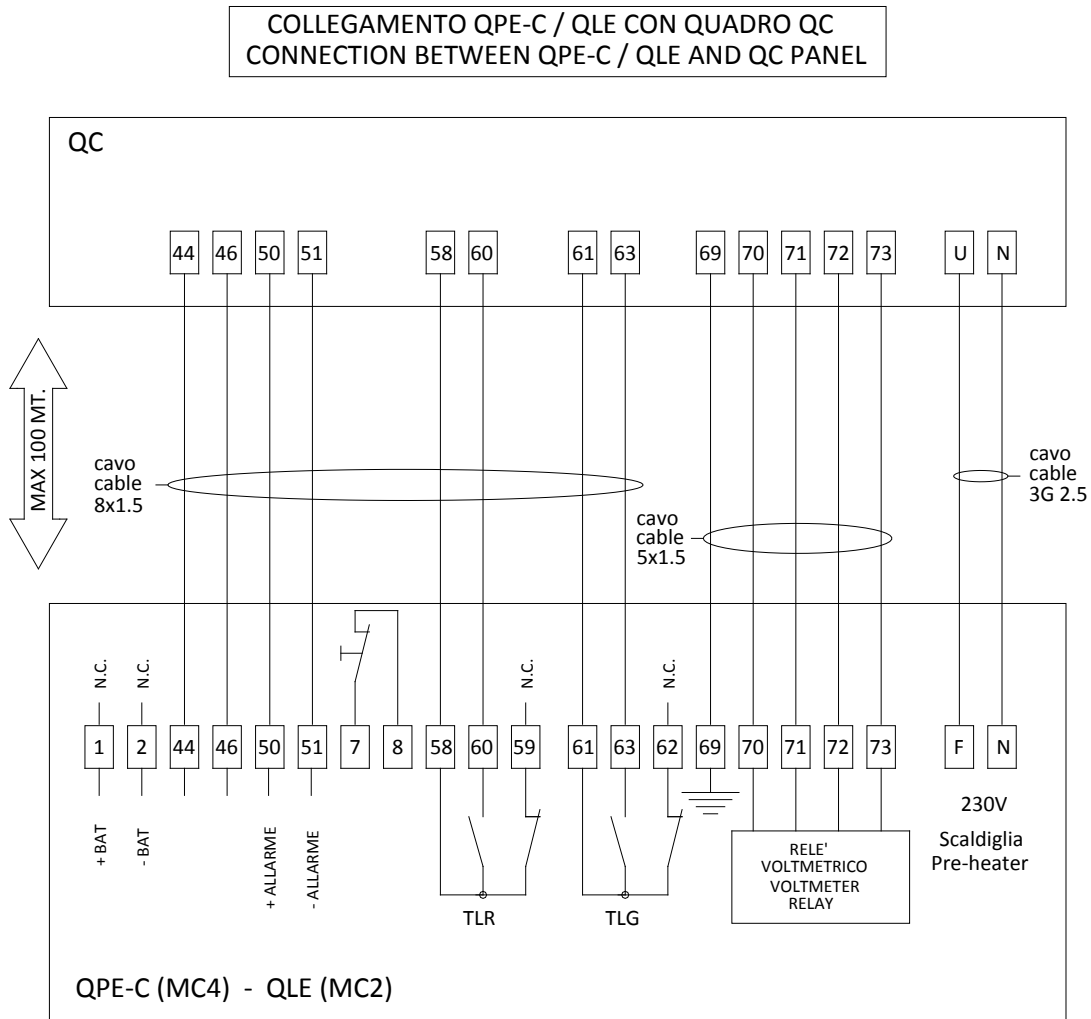
REF.	DESCRIPTION	REF.	DESCRIPTION
1	Fuses	5*	G.S. power cables X-Y-Z-N (inlet)
2	Engine pre-heater switch 10A – 6KA – C	6*	MAINS power cables R-S-T-N (inlet)
3	Contattors	7*	LOAD power cables U-V-W-N (outlet)
4	Auxiliary terminals (Fig.2)	8	Motorized change-over
		9	ATS control panel

*CONNECTIONS:

- Power terminal box – generating set – load (QC1.40 ÷ QC1.90)
- Copper bars arranged for connection cables through terminal lugs, with grommet 8mm diameter (QC1.165)



Fig. 3 - Auxiliary Terminal Box



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INSTALLATION NOTES QC:

- For the correct operation of the QC, it is necessary to connect the wires of the auxiliary control to the G.S. (see fig. 3).
- The switching logic is performed by the card on board Gen Set.
- Always use cables of suitable section (see fig. 3).

