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ATL10
- Automatic transfer switch controller with RS232 port
- DC auxiliary supply
- 6 programmable digital inputs
- 6 programmable relay outputs.

Page 24-3

ATL20
- Automatic transfer switch controller with RS232 port
- AC/DC auxiliary supply
- 8 digital inputs; 6 programmable
- 7 relay outputs; 5 programmable.

Page 24-3

ATL30
- Automatic transfer switch controller with RS232 and RS485 ports
- Real time clock
- AC/DC auxiliary supply
- 8 digital inputs; 6 programmable
- 7 relay outputs; 5 programmable.

Description	ATL10	ATL20	ATL30
AUXILIARY POWER SUPPLY			
Rated DC supply voltage	12-24-48VDC (9…70VDC range)	12-24-48VDC (9…70VDC range)	12-24-48VDC (9…70VDC range)
Rated AC supply voltage	No	220…240VAC (187…264VAC range)	220…240VAC (187…264VAC range)
Dimensions	96x96mm	144x144mm	144x144mm
Degree of protection	IP54	IP41	IP41
FRONT PANEL			
Display	1 line, 4 characters	2 lines, 3 characters each, 7 segments	2 lines, 3 characters each, 7 segments
VOLTAGE MEASUREMENT INPUTS			
Voltage to control “Line 1”	3 phase	3 phase + neutral	3 phase + neutral
Voltage to control “Line 2”	3 phase	3 phase + neutral	3 phases + neutral
IEC rated voltage Ue (L-L)	100…480VAC (50…576VAC range)	100…690VAC (80…800VAC range)	100…690VAC (80…800VAC range)
Frequency range	45…65Hz	45…65Hz	45…65Hz
Type of voltage control	Phase to Phase	Phase to Phase and Phase to Neutral	Phase to Phase and Phase to Neutral
DIGITAL INPUTS AND OUTPUTS			
Number of inputs	6	8	8
Number of outputs	6	7	7
SWITCHING DEVICE CONTROL			
Contactors	Yes	Yes	Yes
Motorised circuit breakers	Yes	Yes	Yes
Motorised changeover switches	Yes	Yes	Yes
INTERFACE			
RS232	Yes	Yes	Yes
RS485 (opto-isolated)	No	No	Yes
Real time clock (RTC) with backup energy	No	No	Yes
Memory for event and data storage	Yes (events only)	Yes	Yes
FUNCTIONS			
Line-Line function	Yes	Yes	Yes
Line-Generator function	Yes	Yes	Yes
Generator-Generator function	No	Yes	Yes
Event logging	Yes	Yes	Yes
Statistical data recording	No	Yes	Yes
Alarm code and description display	Yes (5 languages)	No	No

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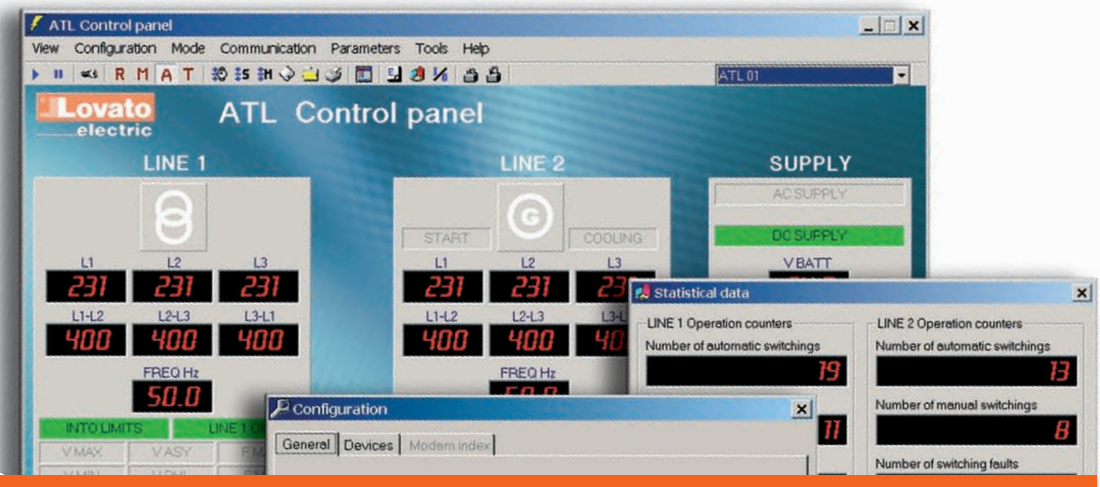
Automatic transfer switch controllers

- Supervision of two three-phase supply lines
- Emergency demand supervision for stand-by generating set
- Control of contactors, motorised circuit breakers or motorised changeover switches
- Event logging
- TRMS measurements of voltage values
- Microprocessor remote control and supervision
- RS232 and RS485 ports
- Modbus®-RTU and Modbus®-ASCII communication protocols
- Real time clock.



Lovato electric

Automatic transfer switch controller

Order code	Description	Qty per pkg	Weight
		n°	[kg]
ATL10	Automatic transfer switch controller with RS232 port; 96x96mm (3.78x3.78")	1	0.484

ATL10

General characteristics

The automatic transfer switch controller ATL10 is used for the automatic switching of the load from the MAIN LINE to a stand-by or emergency SECONDARY LINE and vice versa.
It is made of a single unit in an insulated housing and has two outputs for the "automatic" and/or "manual" control of contactors or motorised circuit breakers.
The transfer switch controller has the following main features:

- Supply input from battery supply 12-48VDC
- Measurement inputs of three-phase with neutral voltages, also suitable for 1 and 2-phase lines
- Display to view main and secondary line measurements
- 15 status LED indicators
- 6 digital inputs programmable
- 6 relay outputs programmable
- 3 operating modes: OFF-MAN-AUT
- Viewing of phase and phase-to-phase line voltage measurements
- Status viewing of motorised circuit breakers or contactors
- Configuration programming of lines and control parameters
- Emergency demand supervision parameter programming for stand-by generating sets
- Microprocessor supervision of functions
- RS232 communication interface
- Modbus®-RTU and Modbus®-ASCII communication protocols
- Set-up and remote control software via direct PC connection, analog or GSM modem or Ethernet network.

CONTROL FUNCTIONS OF THE LINES

- Phase sequence and phase loss
- Minimum and maximum voltage
- Voltage asymmetry
- Minimum and maximum frequency.

Operational characteristics

- Auxiliary supply
  - Auxiliary supply voltage: 12-48VDC
  - Operating range: 9-70VDC
  - Power consumption: 3W
  - Power dissipation: 3W
  - Current consumption: 250mA at 12VDC; 130mA at 24VDC; 65mA at 48VDC.
- Voltage measurement inputs
  - Rated voltage Ue: 480VAC phase-phase
  - Measurement range: 50-576VAC phase-phase
  - Frequency range: 45-65Hz.
- Digital inputs
  - Negative type of inputs
  - Input current: ≤10mA.
- Relay outputs
  - 5 relay outputs, each with 1 NO (SPST) contact
  - 1 relay output with 1 changeover contact (SPDT).
- Housing
  - Flush-mount 96x96mm/3.78x3.78" version
  - IEC degree of protection:
    - IP20 at rear
    - IP54 on front.

Certifications and compliance

Certifications obtained: GOST; UL Listed, for USA and Canada (File E93601), as Auxiliary Devices - Automatic transfer switches.
Compliant with: IEC/EN 60947-1, IEC/EN 60947-6-1, IEC/EN 61000-6-3, IEC/EN 61000-6-2, UL508, CSA C22.2 n° 14.

Automatic transfer switch controller

ATL20 A240
ATL30 A240

Order code	Description	Qty per pkg	Weight
		n°	[kg]
ATL20 A240	Automatic transfer switch controller with RS232 port; 144x144mm (5.67x5.67")	1	1.040
ATL30 A240	Automatic transfer switch controller with RS232 and RS485 ports and real time clock; 144x144mm (5.67x5.67")	1	1.050

Accessories

Order code	Description	Qty per pkg	Weight
		n°	[kg]
Software for ATL10, ATL20 A240 and ATL30 A240.			
ATL SW	Set-up and remote control software complete with 51 C2 cable	1	0.246
Accessories and spare parts for ATL10.			
51 C2	PC ↔ ATL connecting cable, 1.8m/6ft long	1	0.090
31 PA96X96	Front IP54 protective cover	1	0.077
Accessories and spare parts for ATL20 A240 and ATL30 A240.			
51 C2	PC ↔ ATL connecting cable, 1.8m/6ft long	1	0.090
31 PACR	Front IP54 protective cover	1	0.107
Accessories and spare parts for ATL30 A240.			
51 C4	PC ↔ 4 PX1 converter connecting cable, 1.8m/6ft long	1	0.147
51 C5	Analog modem ↔ ATL connecting cable, 1.8m/6ft long	1	0.111
51 C6	4 PX1 converter ↔ ATL connecting cable, 1.8m/6ft long	1	0.102
51 C7	GSM modem ↔ ATL connecting cable, 1.8m/6ft long	1	0.137
4 PX1	RS232/RS485 converter drive, opto-isolated, 220-240VAC❶	1	0.600

❶ RS232/RS485 opto-isolated converter drive, 38,400 Baud rate maximum, automatic or manual TRANSMIT line supervision., 220-240VAC ±10% (110-120VAC supply on request).

General characteristics
The automatic transfer switch controllers "ATL20" and "ATL30" are used for the automatic switching of the load from the MAIN LINE to a stand-by or emergency SECONDARY LINE and vice versa.
They are made of a single unit in an insulated housing and have two outputs for the "automatic" and/or "manual" control of contactors or motorised circuit breakers.
The transfer switch controllers have the following main features:
- Dual supply input, one for AC and the other for battery supply
- Measurement inputs of three-phase with neutral voltages, also suitable for 1 and 2-phase lines
- 2 displays to view main and secondary line measurements
- 22 status LED indicators
- 8 digital inputs, 6 of which programmable
- 7 relay outputs, 5 of which programmable
- 4 operating modes: OFF-MAN-AUT-TEST
- Viewing of phase and phase-to-phase line voltage measures
- Viewing of motorised circuit breakers or contactors status
- Configuration programming of lines and control parameters
- Emergency demand supervision parameter programming for stand-by generating set
- Microprocessor supervision of functions
- RS232 communication interface
- RS485 opto-isolated communication interface for ATL30 A240 only
- Modbus®-RTU and Modbus®-ASCII communication protocols
- Set-up and remote control software via direct PC connection, analog or GSM modem or Ethernet network.

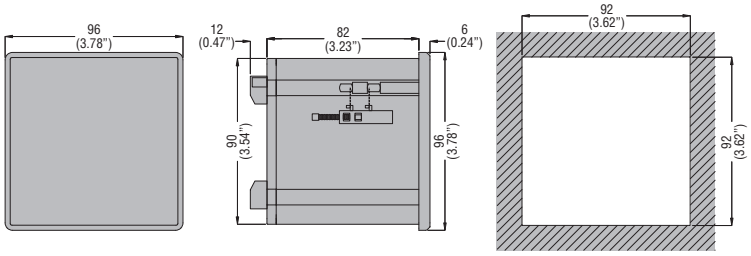
CONTROL FUNCTIONS OF THE LINES
- Phase sequence and phase loss
- Minimum and maximum voltage
- Voltage asymmetry
- Minimum and maximum frequency.

Operational characteristics
- Auxiliary supply
  - Auxiliary supply voltage: 12-48VDC and 220-240VAC❷ (12-48VDC and 110-120VAC on request)
  - Operating range: 9-70VDC; 187-264VAC (93.5-132VAC)
  - Power consumption: 9VA at 240VAC
  - Power dissipation: 4.1W at 48VDC; 6.3W at 240VAC
  - Current consumption: 300mA at 12VDC; 180mA at 24VDC; 90mA at 48VDC
  - Frequency range: 45-65Hz
- Voltage measurement inputs
  - Rated voltage: 690VAC phase-phase (400VAC phase-neutral)
  - Measurement range: 80-800VAC phase-phase
  - Frequency range: 45-65Hz.
- Digital inputs
  - Negative type of input
  - Input current: ≤10mA.
- Relay outputs
  - 5 relay outputs, each with 1 NO (SPST) contact
  - 2 relay outputs, each with 1 changeover (SPDT) contact.
- Housing
  - Flush-mount 144x144mm/5.67x5.67" version
  - IEC degree of protection:
    - IP20 at rear
    - IP41 on front, without protective cover
    - IP54 on front, complete with protective cover.

Certifications and compliance
Certifications obtained: GOST; UL Listed, for USA and Canada (File E93601), as Auxiliary Devices - Automatic transfer switches.Compliant with: IEC/EN 60947-1, IEC/EN 60947-6-1, IEC/EN 61000-6-3, IEC/EN 61000-6-2, UL508, CSA C22.2 n° 14.

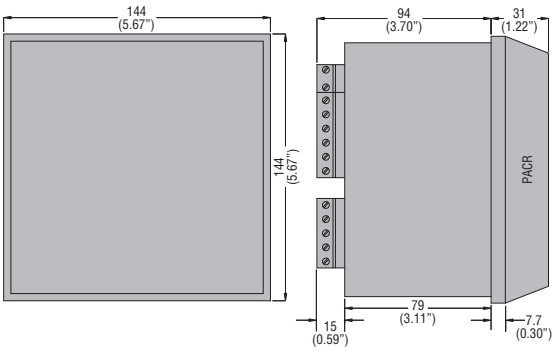
❷ Other AC voltages are available on request.

ATL10



Cutout

ATL20 - ATL30



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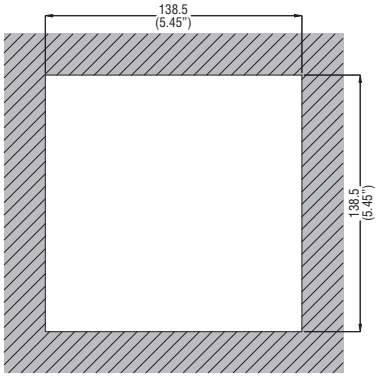
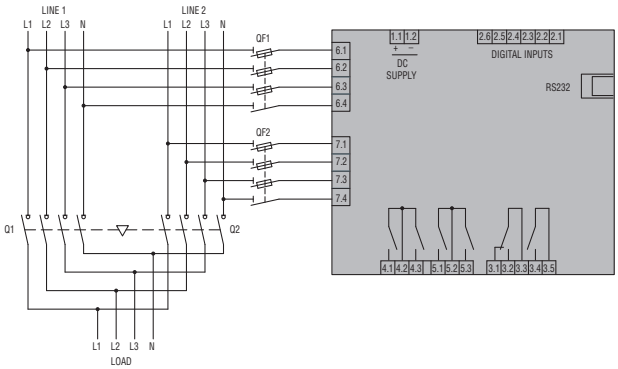
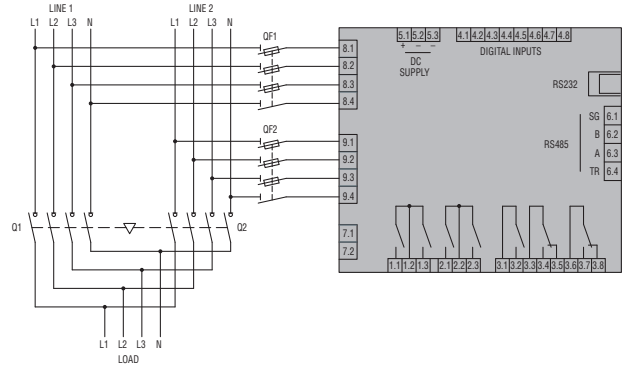


Wiring diagrams

ATL 10



ATL 20 - ATL 30



TYPE	ATL10	ATL20	ATL30
AUXILIARY SUPPLY			
Auxiliary voltage	12-48VDC	12-48VDC; 220-240VAC (110-120VAC on request)	
Operating voltage range	9-70VDC	9-70VDC; 187-264VAC (93.5-132VAC)	
Frequency	—	45-65Hz	
Power consumption maximum	3W	9VA (240VAC)	
Power dissipation maximum	3W	4.1W (48VDC); 6.3W (240VAC)	
Current consumption maximum	250mA (12VDC); 130mA (24VDC); 65mA (48VDC)	300mA (12VDC); 180mA (24VDC); 90mA (48VDC)	
Immunity time for microbreakings	50ms	50ms	
VOLTAGE INPUTS			
Maximum rated voltage	480VAC L-L (277VAC L-N)	690VAC L-L (600VAC L-L per UL) (400VAC L-N; 340VAC L-N per UL)	
Measurement range	50-576VAC (L-L)	80-800VAC (L-L)	
Frequency range	45-65Hz		
Method of measuring	True RMS value		
Measuring input impedance	>1.1MΩ L-L and >0.5MΩ L-N		
Method of connection	Single-phase, two-phase or three-phase system		
Measuring error	±0.25% f.s. ±1 digit		
CURRENT INPUTS			
Number of inputs	6	8	
Type of input	Negative		
Input current	≤10mA		
Input signal - “0” logic state	≤1.5V (2.9V typical)		
Input signal - “1” logic state	≥5.3V (4.3V typical)		
Input signal delay	≥50msec		
OUTPUT RELAYS			
Number of outputs	6	7	
Contact configuration	– 5 relays, each with 1NO (SPST) contact – 1 relay with 1 c/o (SPDT) contact All 8A 250VAC AC1 (8A B300 1A 30VDC Pilot duty per UL)	– 2 relays, each with 1NO (SPST) contact 16A 250VAC AC1 (12A B300 1A 30VDC Pilot duty per UL) – 3 relays, each with 1NO (SPST) contact – 8A 250VAC AC1 – 2 relays, each with 1 c/o (SPDT) contact – 8A 250VAC AC1 These 5: 8A B300 1A 30VDC Pilot Duty per UL	
COMMUNICATION LINES			
Serial interface	RS232 connection by RJ6/6 jack	RS232 with programmable baud rate 1200-38400bps connection by RJ6/6 jack	
	—	—	RS485 opto-isolated with programmable baud rate 1200....38400 bps Connection by removable/ plug-in terminals
INSULATION VOLTAGE			
IEC rated insulation voltage Ui	480V	690V	
CONNECTIONS			
Type of terminals	Removable / Plug-in		
Conductor section min-max	0.2-2.5mm² (24-12AWG)		
Tightening torque maximum	0.5Nm (4.5 lbin)		
AMBIENT CONDITIONS			
Operating temperature	-20...+60°C		
Storage temperature	-30...+80°C		
Relative humidity	<90%		
Maximum pollution degree	2	3	
HOUSING			
Material	Black self-extinguishing Noryl UL94 V0	Self-extinguishing thermoplastic LEXAN	
Version	Flush mount 96x96mm/3.78x3.78in	Flush mount 144x144mm/5.67x5.67in	

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