



Engine and generator control modules

Lovato
electric

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RGK 30



General characteristics

- Engine protection and manual engine starting-stopping control by key switch
- Digital inputs: 3 negative and 1 positive
- Digital output: 2 relay outputs.

Viewed data

- 7 LED indicators.

Most significant functions

- Very simple installation, use and set-up
- Automatic monitoring and engine shutdown in case of fault
- Inputs and output with programmable functions
- Suitable for many engine types with different alternator battery chargers.

RGAM 10 - RGAM 20



General characteristics

- VAC inputs: mains L1-L2/N-L3, generator L1-L2/N
- 4 digital inputs, 5 relay outputs for RGAM 10
- 6 digital inputs, 6 relay outputs for RGAM 20.

Viewed measures and data

- Voltage and frequency of mains and generator
- Battery voltage
- Engine speed for RGAM 20
- Maintenance hours (stored in a non-volatile memory) for RGAM20
- Running hours (stored in a non-volatile memory).

Most significant functions

- Alphanumeric display for alarm and parameter texts
- Mains and generator supervision: min-max voltage, min-max frequency, phase sequence (for mains only) and voltage asymmetry (for mains only)
- Inputs, outputs and alarms, all with programmable properties
- Wide selection of functions to satisfy particular application requirements
- Quick set-up and commissioning with set-up software via RS232 port
- Modem support with "Autocall" function for automatic email and SMS sending at predefined events for RGAM 20 only.

RGAM 12 - RGAM 12RC - RGAM 24 - RGAM 24RC



General characteristics

- VAC inputs: mains L1-L2/N-L3, generator L1-L2/N
- 8 digital inputs, 7 relay outputs.

Viewed measures and data

- Voltage of mains and generator lines
- Generator frequency
- Battery voltage
- Running and maintenance hours (stored in a non-volatile memory).

Most significant functions

- Wide selection of functions to satisfy particular application requirements
- Quick commissioning with set-up software and status supervision with remote control software
- Modem support with "Autocall" function for automatic email and SMS sending at predefined events.



..for total control

RGAM 40 - RGAM 41 - RGAM 42



General characteristics

- VAC inputs: mains L1-L2-L3-N, generator L1-L2-L3-N
- Current inputs L1-L2-L3
- 8 digital inputs, 7 relay outputs.

Viewed measures and data

- Voltage, current, power, power factor and frequency of mains and generator lines
- Active and reactive energy
- Battery voltage
- Engine speed
- Oil pressure, engine temperature and fuel level
- Running and maintenance hours
- Number of starts and percentage of successful starts
- Event log of the last 255 events.

Most significant functions

- 5-language support for alarms, events and parameters
- Generator overload protection
- Dummy load control
- Automatic generator test by means of programmable real time clock for RGAM 41 and RGAM 42 only
- CANbus – J1939 interface for RGAM 42 only
- Programmable and customisable inputs, outputs and alarms
- Quick commissioning with set-up software and status supervision with remote control software
- Modem support with “Autocall” function for automatic email and SMS sending at predefined events.

RGK 50 - RGK 60



General characteristics

- RGK 50 is a control and protection device for generating sets, suitable for remote start applications
- RGK 60 is a control and protection device for generating sets, equipped with Automatic Mains Failure (AMF) function
- VAC inputs: mains L1-L2-L3-N, generator L1-L2-L3-N
- Current inputs L1-L2-L3
- 12 digital inputs, 7 relay outputs.

Viewed measures and data

- Voltage, current, power, power factor and frequency of mains and generator lines
- Active and reactive energy
- Battery voltage
- Engine speed
- Oil pressure, engine temperature and fuel level
- Running and maintenance hours
- Number of starts and percentage of successful starts
- Event log of the last 255 events.

Most significant functions

- 5-language support for alarms, events, parameters and help messages
- All texts are user-customisable
- On-line help in case of alarm or during parameter setting
- Generator overload protection
- 2 slots for expansion boards: RS485 interface, clock calendar, digital I/O, etc.
- Programmable and customisable inputs, outputs and alarms
- Quick commissioning with set-up software and status supervision with remote control software
- Modem support with “Autocall” function for automatic email and SMS sending at predefined events.

Technical characteristics

	RGK 30	RGAM 10	RGAM 20	RGAM 12 RGAM 12RC RGAM 24 RGAM 24 RC	RGAM 40 RGAM 41 RGAM 42	RGK 50 RGK 60
Battery rated voltage	12/24VDC	12/24VDC	12/24VDC	12VDC or 24VDC	12/24VDC	12/24VDC
Operating supply range	9...33VDC	9...35VDC	9...35VDC	9...16VDC or 13...32VDC	9...35VDC	9...33VDC
Mains voltage control	-	L1-L2/N-L3	L1-L2/N-L3	L1-L2/N-L3	L1-L2-L3-N	L1-L2-L3-N (RGK 60)
Generator voltage control	-	L1-L2/N	L1-L2/N	L1-L2/N	L1-L2-L3-N	L1-L2-L3-N
Rated voltage	-	100...415VAC	100...415VAC	100...480VAC	100...480VAC	100...480VAC
Current control	-	-	-	-	L1-L2-L3	L1-L2-L3
Rated frequency	-	50/60Hz	50/60Hz	50/60Hz	50/60/400Hz	50/60/400Hz
VT programming	-	-	YES	-	YES	YES
Input current	-	-	-	-	0.05...6A	0.05...6A
Engine running pick-up input	-	-	-	-	YES	YES ②
TRMS voltage measure	-	YES	YES	YES	YES	YES
TRMS current measure	-	-	-	-	YES	YES
Display	-	4 alphanumeric character LED	4 alphanumeric character LED	3 digit LED	Graphic backlit LCD, 128x64 pixels	Graphic backlit LCD, 192x64 pixels
LEDs	7	16	19	16	9	8 (RGK 50) 10 (RGK 60)
Digital inputs	4	4	6	8	8	12
Relay outputs	2	5	6	7	7	7
Rated relay output	5A 30VDC DC1	8A 250VAC AC1 8A 30VDC DC1	8A 250VAC AC1 8A 30VDC DC1	8A 250VAC AC1 5A 30VDC DC1	8A 250VAC AC1 8A 30VDC DC1	8A 250VAC AC1 5A 30VDC DC1
Engine running inputs	②	"D+" and "AC"	"D+" and "AC"	"D+" and "AC"	"D+" and "AC"	"D+" and "AC"
Engine speed input	"W"	-	"W"	-	"W" or "Pick-Up"	"W" or "Pick-Up" ③
Analog input: Level-Pressure-Temp	-	-	-	-	YES	YES
Non-volatile memory for data storage	-	-	YES	-	YES	YES
I/O expansion	-	-	-	-	-	YES
RS232 port	-	YES	YES	YES	YES	YES
RS485 port	-	-	-	YES (RGAM...RC only)	YES (RGAM 41 only)	YES ③
Remote control ①	-	-	YES ③	YES	YES ③	YES ③
CANbus interface	-	-	-	-	YES (RGAM 42 only)	YES ③
Event logging	-	-	YES ⑤	YES ⑤	YES	YES
Data recording	-	-	YES	YES	YES	YES
RTC (Real Time Clock)	-	-	-	-	YES (RGAM 41 - RGAM 42 only)	YES ⑤
Number of parameters	6	110	163	80	177	161 (RGK 50) 182 (RGK 60)
Number of I/O functions	-	25	50	8	67	67 (RGK 50) 71 (RGK 60)
Number of alarms	6	18	31	17	43	45 (RGK 50) 47 (RGK 60)
User alarms	-	-	4	4	4	8
Alarm property customisation	-	-	YES	-	YES	YES
Texts for alarms, events and parameters	-	YES	YES	-	YES	YES
Number of languages	-	1	5	-	5	5
Text customisation	-	-	-	-	-	YES
Degree of protection	IP41 ④	IP54 ④	IP54 ④	IP41 ④	IP41 ④	IP54 ④
Plug-in removable terminal connections	YES	YES	YES	YES	YES	YES

① Remote control means: ASCII proprietary and Modbus® RTU protocols, GSM modem management, AUTOCALL function (SMS and email sending, etc).

② "D", "W" signal or permanent magnet and pre-excited alternator.

③ Optional board.

④ Degree of protection on front. IP20 at rear.



⑤ Events in volatile memory.

⑥ Remote control software with ETHERNET communication by means of TCP/IP protocol.



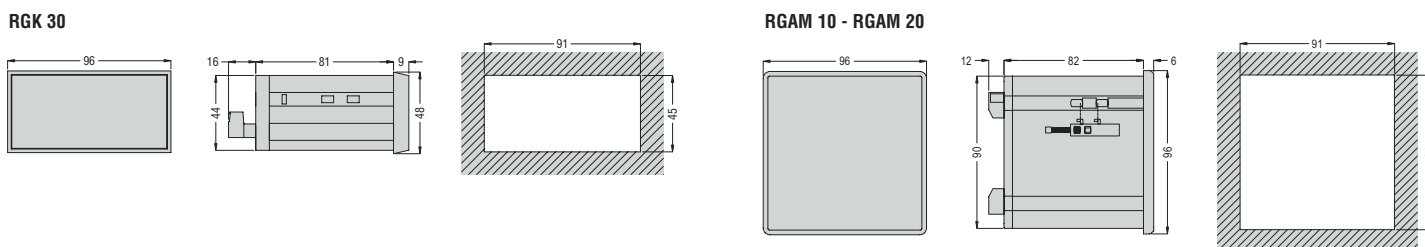
Comfort and safety 24 hours a day

How to order

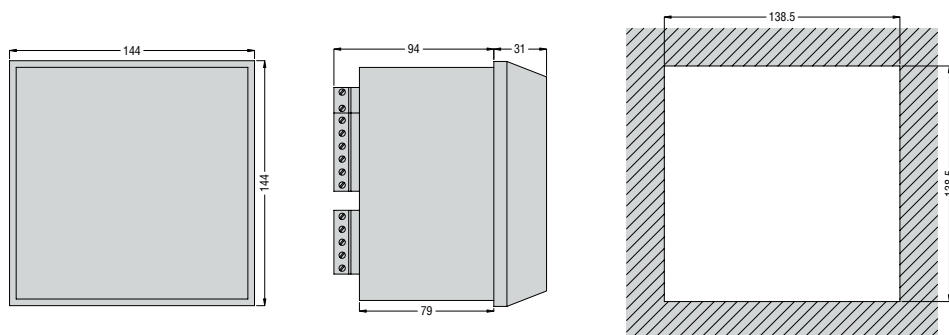
Order code	Description	Qty per pkg n°	Weight [kg]
Engine control module			
RGK 30	Engine protection unit 12/24VAC, manual engine starting and stopping	1	0.160
Generator control modules			
RGAM 10	Gen-set controller, 12/24VDC, 4 alphanumeric character display, with RS232 port (for set-up only)	1	0.480
RGAM 20	Gen-set controller, 12/24VDC, 4 alphanumeric character display, with RS232 port	1	0.460
31 RGAM 12	Gen-set controller, 12VDC, 3 digit LED display, with RS232 port	1	0.900
31 RGAM 24	Gen-set controller, 24VDC, 3 digit LED display, with RS232 port	1	0.900
31 RGAM 12RC	Gen-set controller, 12VDC, 3 digit LED display, with RS485 port	1	1.000
31 RGAM 24RC	Gen-set controller, 24VDC, 3 digit LED display, with RS485 port	1	1.000
RGAM 40	Gen-set controller, 12/24VDC, graphic LCD, with RS232 port	1	0.830
RGAM 41	Gen-set controller, 12/24VDC, graphic LCD, with RTC  , RS232 and RS485 ports	1	0.840
RGAM 42	Gen-set controller, 12/24VDC, graphic LCD, with RTC  , RS232 and CANbus ports	1	0.840
RGK 50	Gen-set controller, 12/24VDC, graphic LCD, with RS232 port (without AMF function)	1	0.750
RGK 60	Gen-set controller, 12/24VDC, graphic LCD, with RS232 port	1	0.750
Interface software			
31 RGAM SW	Remote control communication software for RGAM 12 - RGAM 12RC - RGAM 24 - RGAM 24RC units	1	0.246
RGK SW10	Set-up software for RGK 50 - RGK 60 and RGAM 10 - RGAM 20 - RGAM 4... units	1	0.246
RGK SW20	Remote control software (includes RGK SW10) for RGK 50 - RGK 60 and RGAM 20 - RGAM 4... units	1	0.400
Accessories			
RGK X01	Option board (clock calendar, RS485 port and 2 digit outputs) for RGK 50 - RGK 60 units	1	0.050
RGK X21	Option board (pick-up function, 2 digital outputs and 4 digital inputs) for RGK 50 - RGK 60 units	1	0.090
RGK X22	Option board (4 relay outputs) for RGK 50 - RGK 60 units	1	0.110
RGK X23	Option board for CANbus J1939 interface for RGK 50 - RGK 60 units	1	0.100
51 MODEMUSR5630	Modem 3Com-U.S.Robotics 56k FAX MODEM with PC cable	1	0.800
51 C2	Cable for PC - RS232 connection, 1.8m long	1	0.090
51 C3	Cable for PC - GSM Modem connection, 1.8m long	1	0.210
51 C4	Cable for PC - PX1/RS232 converter connection, 1.8m long	1	0.147
51 C5	Cable for modem - controller connection, 1.8m long	1	0.111
51 C7	Cable for GSM modem - controller connection, 1.8m long	1	0.100

 RTC = Real Time Clock with backup battery.

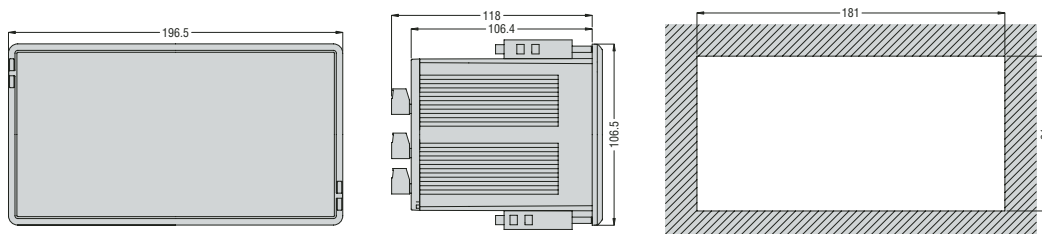
Dimensions [mm]



RGAM 12 - RGAM 12RC - RGAM 24 - RGAM 24RC - RGAM 40 - RGAM 41 - RGAM 42



RGK 50 - RGK 60





Contactors



Push buttons and selectors



Rotary cam switches



Protection relays



Digital Multimeters



Automatic battery chargers



Automatic transfer switch controllers



Planet-SWITCH

- Motor protection circuit breakers
- Switch disconnectors
- Contactors
- Motor protection relays
- Electromechanical starters
- Control and signalling units
- Limit, micro and foot switches
- Rotary cam switches

Planet-DIN

- Modular contactors
- Time relays
- Protection relays
- Level control relays
- Earth leakage relays

Planet-LOGIC

- Digital metering instruments and current transformers
- Soft starters
- AC motor drives
- Automatic power factor controllers
- Automatic battery chargers
- Automatic transfer switches
- Programmable logic relays
- Generating set controllers

The products described in this publication are subject to be revised or improved at any moment. Catalogue descriptions and details, such as technical and operational data, drawings, diagrams and instructions, etc., do not have any contractual value. In addition, products should be installed and used by qualified personnel and in compliance with the regulations in force for electrical systems in order to avoid damages and safety hazards.

Distributed by:



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