

PRODUCT CATALOG
2022



Globus
Electronics

CAT0001 CATÁLOGO DE PRODUTOS.ING REV.1



TECHNOLOGY, COMFORT AND CONNECTIVITY
IN CUSTOM ELECTRONIC CONTROL SOLUTIONS

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Globus
Electronics

ABOUT **Globus** Electronics

Since 1998, Globus Electronics is a company that develops, manufactures and sells electronic controllers and devices for the B2B market. The company operates in the areas of Automotive and Industrial Automation.

CUSTOMIZATION IS OUR DIFERENTIAL

Our focus is on quality, technology and flexibility allied to excellence in customer service.

Cost-effective, our company's intelligent control solutions are used in applications for commercial vehicles, aircraft, boats, vans, buses, trucks, motorhomes, trains, ambulances, rescue vehicles, agricultural and construction machinery.





WE SUPPLY TO MORE THAN 40 COUNTRIES ON 05 CONTINENTS!

We offer solutions to provide comfort,
practicality and economy.

OUR MISSION:

To make people's lives easier by means of technological
solutions, providing comfort, practicality and economy,
with the commitment to protect the environment.



CONNECTIVITY AND MONITORING FOR FLEET TRACKING





CONTROL PANELS

NEO

OEM

HVAC

CABIN / MUX



NEO1



NEO2



NEO3

MAIN FUNCTIONS

REFRIGERATION

HEATING

VENTILATION

AIR DIRECTION

MULTIPLEX

CABIN CONTROL

CHARACTERISTICS

- Innovative design
- Designed for heavy-duty applications
- Analog commands
- Backlit buttons and symbols
- Available as HMI - Human Machine Interface (CAN Bus)
- Customer logo on the panel
- Screwless installation
- Automotive connector
- High frontal protection grade

AVAILABLE FOR



CONTROLLERS DEVELOPED WITH BUTTONS AND INTERFACES FOR COMPLETELY CUSTOMIZABLE FUNCTIONS

CHOOSE BETWEEN THE HORIZONTAL OR VERTICAL (i) FORMATS



POTENTIOMETER	POWER SWITCH	VENTILATION SPEED CONTROLLER 3 speed 16A@12V or 10A@24V 4 speed 25A@12V or 15A@24V * Not available at Neo3 central position	
		PWM VENTILATION Automatic ventilation control	
		TEMPERATURE Control in 22 or 10 positions Hot & Cold Cold Hot Setpoint	
		AIR DIRECTIONING 3 or 5 positions Flap Positions	
BUTTONS		2 INDIVIDUAL BUTTONS 6 available status LEDs	

Present a not yet available function and Globus will analyze its development

CONFIGURATION OPTIONS

OUTPUTS: Analog, Digital Positive and Negative, Bridge (flap motor) and PWM

INPUTS: Analog and Digital

COMMUNICATION: CAN Bus and One Wire

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI



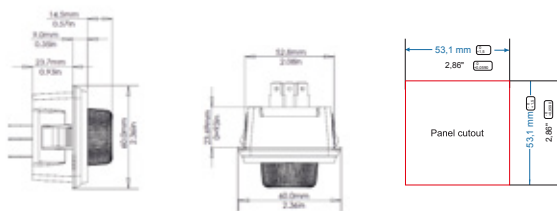
TECHNICAL DATA

OEM

HVAC

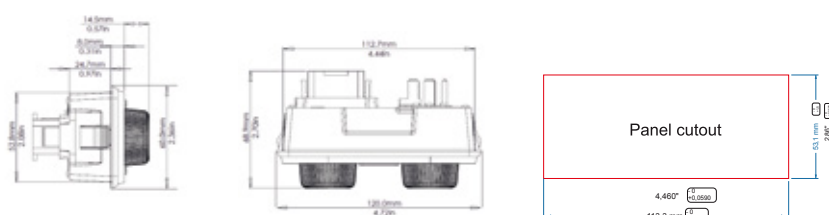
CABIN / MUX

NEO1



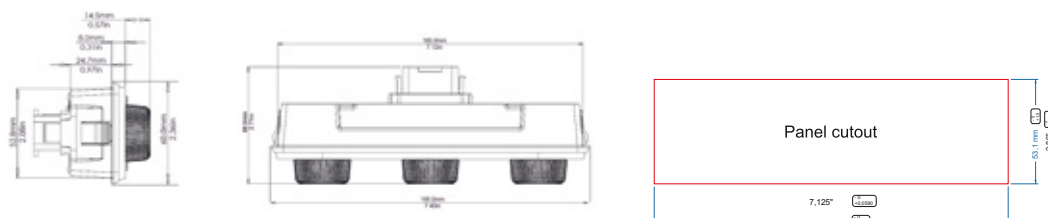
Approximated weight: 80g

NEO2



Approximated weight: 175g

NEO3



Approximated weight: 465g

CONNECTORS



3 SPEED POWER SWITCH
Part Number: 754C3
Manufacturer: Koch Sales



4 SPEED POWER SWITCH
Part Number: 12110047
Manufacturer: Delphi



POSITIVE LOCK 1 way
Part Number: 154719-1
Terminal - PN: 880645-6
Manufacturer: Tyco Electronics



MATE-N-LOK 15 ways
Part Number: 1-480710 - 0
Terminal - PN: 350689-3
Manufacturer: Tyco Electronics

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	9 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	See individual product description
OUTPUT SHORT-CIRCUIT	Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +125°C / -40°F to +257°F
TEMPERATURE SENSOR	NTC - See individual product description
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	
NEO1 - NO POWER KEY	25mA @ 12 VDC / 32mA @ 24 VDC
NEO1 - WITH POWER KEY - MINIMUM BRIGHTNESS	5,5mA @ 12 VDC / 16,5mA @ 24 VDC
NEO1 - WITH POWER KEY - MAXIMUM BRIGHTNESS	12mA @ 12 VDC / 36mA @ 24 VDC
NEO2	40mA @ 12 VDC / 20mA @ 24 VDC **
NEO3	70mA @ 12 VDC / 35mA @ 24 VDC **
STANDBY CONSUMPTION (NEO2 E NEO3)	**

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

NEO¹ VENTILATION

OEM

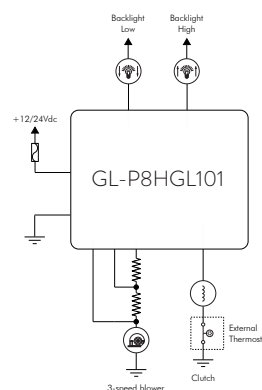
HVAC

Allows for the practical fan speed and/or temperature adjustment.
Easy installation and excelent cost benefit relation.

FAN SPEED CONTROLLER

GL-P8HGL101

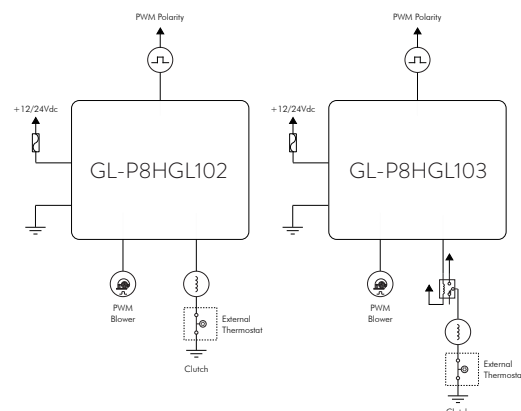
- 3 speed evaporator power switch
16A@12V and 10A@24V
- Dimmer input
- Ventilation ON output – 4A@12V
and 2.5A@24V (clutch)



PWM FAN SPEED CONTROLLER

GL-P8HGL102 / GL-P8HGL103

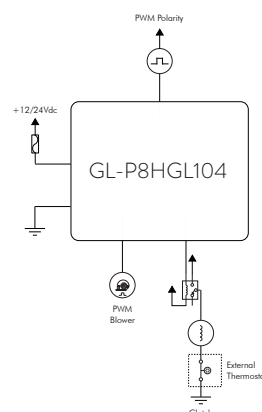
- 9 speed PWM Fan speed signal
- PWM reversing
- 5A positive clutch output (GL-P8HGL102)
- 500mA negative clutch output (GL-P8HGL103)
- A/C Key



PWM FAN SPEED CONTROLLER

GL-P8HGL104

- 9 speed PWM Fan speed signal
- PWM reversing
- Ventilation ON output – negative 500mA
(clutch)



NEO¹ TEMPERATURE

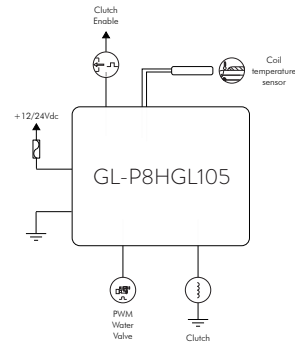
OEM

HVAC

PWM TEMPERATURE CONTROLLER

GL-P8HGL105

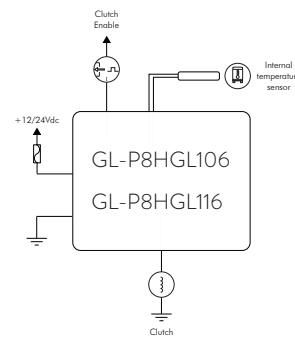
- Coil temperature sensor
- Enable compressor input
- 5A positive clutch output
- PWM hot water valve signal
- A/C button
- Diagnostic LED



COMPRESSOR CYCLING TEMPERATURE CONTROLLER

GL-P8HGL106 (Celsius scale) /
GL-P8HGL116 (Fahrenheit scale)

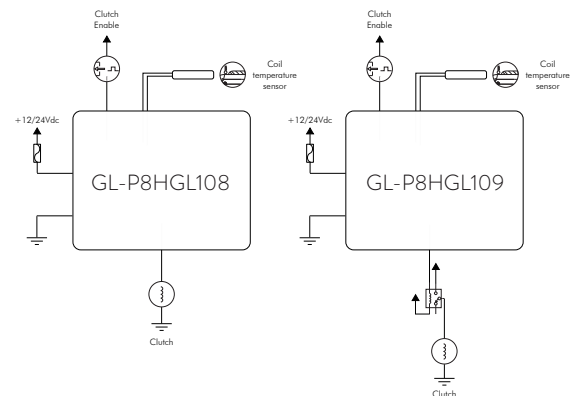
- Return temperature sensor
- Enable compressor input
- 5A positive clutch output
- A/C button
- Diagnostic LED



COMPRESSOR CYCLING TEMPERATURE CONTROLLER

GL-P8HGL108 /GL-P8HGL109

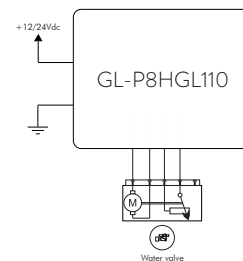
- Coil temperature sensor
- Enable compressor input
- 5A positive clutch output
- GL-P8HGL108
- 500mA negative clutch output
- GL-P8HGL109
- A/C button
- Diagnostic LED



PROPORTIONAL TEMPERATURE CONTROLLER

GL-P8HGL110

- Proportional hot water valve (H-Bridge)
- Valve feedback input
- Diagnostic LED



Customization and flexibility are some of Globus' differentials. We adapt our products according to the needs of our customers. Check below our different hardware configuration possibilities.

Choose the best options for your system

PIN	NEO 1 POSSIBLE CONFIGURATIONS - HARDWARE 1										
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 5A (*)	OR	PWM OUTPUT	OR	ANALOG OUTPUT (**)	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	ONE WIRE	OR	ANALOG INPUT	OR	DIGITAL INPUT
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
5	GND	OR	--	OR	--	OR	--	OR	--	OR	--
6	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--	OR	--

(*) WITH PCI AUXILIAR AXP8HGL101 / (**) WITH PCI AUXILIAR AXP8HGL102

PIN	NEO 1 POSSIBLE CONFIGURATIONS - HARDWARE 2		
1	POTENTIOMETER OUTPUT (MAX RESISTANCE PIN - CW)	OR	(*)
2	POTENTIOMETER OUTPUT (CENTER PIN)	OR	(*)
3	GND	OR	(*)
4	MAX BACKLIGHT	OR	--
5	GND	OR	--
6	MIN BACKLIGHT	OR	--

PIN	NEO 1 POSSIBLE CONFIGURATIONS - HARDWARE 3	
1	DIGITAL OUTPUT POSITIVE 5A	
2	INPUT FOR ENABLE OUTPUT (TURN ON)	
3	GND	
4	BACKLIGHT	
5	GND	
6	POWER SUPPLY	

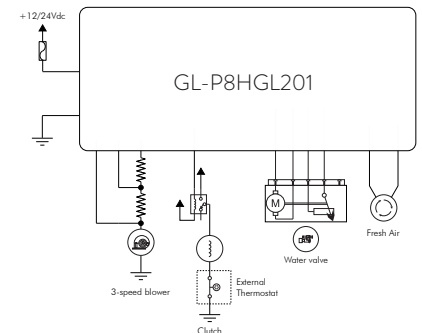
(*) The potentiometer is not mounted when the power switch is used.

Many fan speed and temperature control adjustment options

3-SPEED VENTILATION AND PROPORTIONAL TEMPERATURE CONTROLLER

GL-P8HGL201

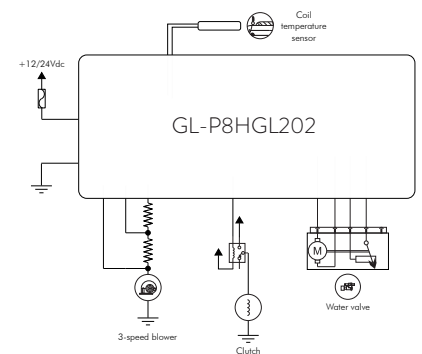
- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Fresh Air output
- 500mA negative clutch output
- Fresh Air button
- A/C button
- Diagnostic LED



3-SPEED VENTILATION AND PROPORTIONAL TEMPERATURE BY COMPRESSOR CYCLING CONTROLLER

GL-P8HGL202

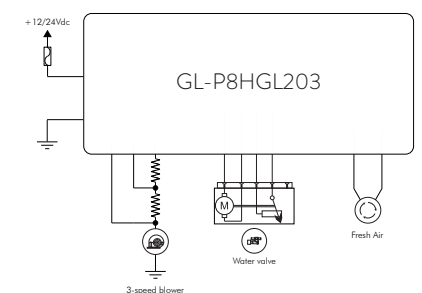
- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Coil temperature sensor
- 500mA negative clutch output
- A/C button
- Diagnostic LED



3 SPEED VENTILATION AND HEATING CONTROL WITH FRESH AIR BUTTON

GL-P8HGL203

- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Fresh Air output
- Diagnostic LED

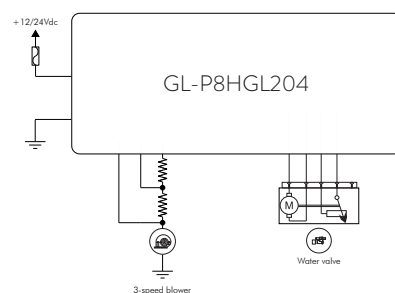


Many fan speed and temperature control adjustment options

3 SPEED VENTILATION AND HEATING CONTROL

GL-P8HGL204

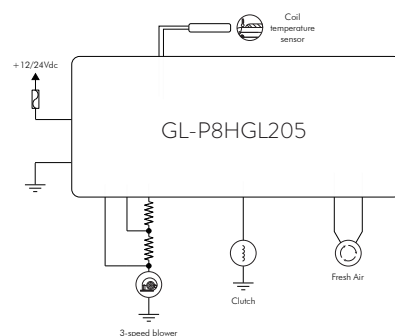
- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Diagnostic LED



FAN SPEED AND TEMPERATURE CONTROL BY COMPRESSOR CYCLING

GL-P8HGL205

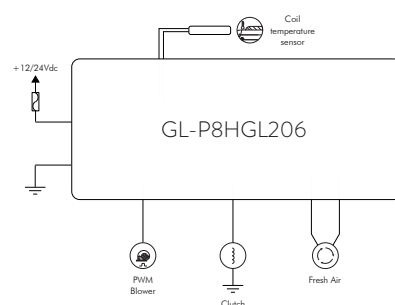
- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Coil temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED



PWM FAN SPEED AND TEMPERATURE CONTROL BY COMPRESSOR CYCLING

GL-P8HGL206

- 9-Speed PWM Fan speed signal
- Coil temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED

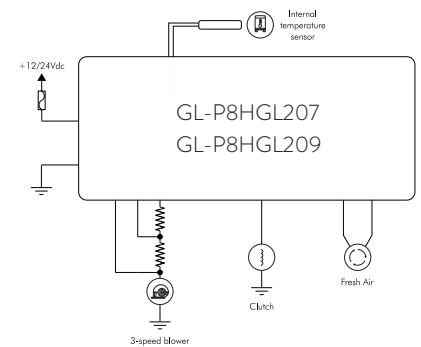


Many fan speed and temperature control adjustment options

3-SPEED VENTILATION AND TEMPERATURE BY COMPRESSOR CYCLING CONTROLLER

GL-P8HGL207 (Celsius scale) /
GL-P8HGL209 (Fahrenheit scale)

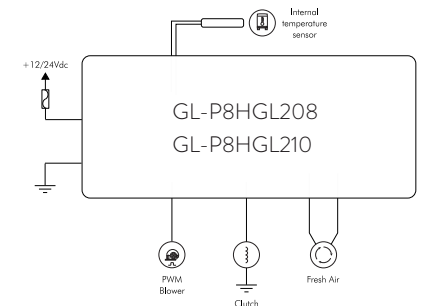
- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Return temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED



PWM FAN SPEED AND TEMPERATURE CONTROL BY COMPRESSOR CYCLING

GL-P8HGL208 (Celsius scale) /
GL-P8HGL210 (Fahrenheit scale)

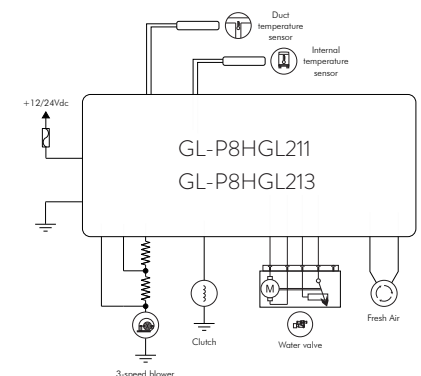
- 8-Speed PWM Fan speed signal
- Return temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED



DOUBLE PID 3-SPEED VENTILATION AND TEMPERATURE CONTROL

GL-P8HGL211 (Celsius scale) /
GL-P8HGL213 (Fahrenheit scale)

- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Return temperature sensor
- Duct temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED





VENTILATION and TEMPERATURE

OEM

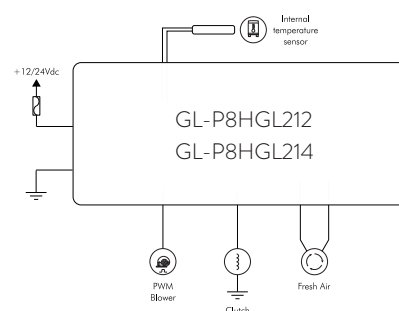
HVAC

Many fan speed and temperature control adjustment options

DOUBLE PID PWM VENTILATION AND TEMPERATURE CONTROL

GL-P8HGL212 (Celsius scale) /
GL-P8HGL214 (Fahrenheit scale)

- 8-Speed PWM Fan speed signal
- Proportional hot water valve control
- Return temperature sensor
- Duct temperature sensor
- Fresh Air output
- 5A Positive clutch output
- A/C button
- Fresh Air button
- Diagnostic LED



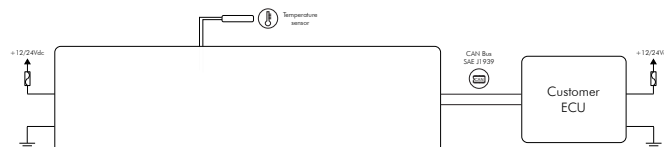
OEM

HVAC

Use the panel as an interface and develop your own control algorithm

VENTILATION AND TEMPERATURE CONTROL*

- HMI – Human Machine Interface
- CAN Bus communication with ECU
- Knob position reading
- Button status reading
- LED status writing
- Up to 4 function buttons
- Up to 6 indication LEDs

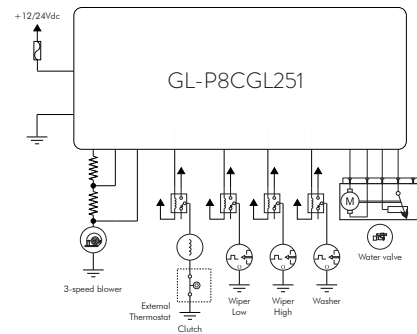


Option for vertical installation

3-SPEED VENTILATION, PROPORTIONAL TEMPERATURE, WINDSHIELD WIPER AND WIPER NOZZLES CONTROLLER

GL-P8CGL251

- 3-Speed evaporator power switch
16A@12V and 10A@24V
- Proportional hot water valve control
- Windshield Wiper, 2 speeds 500mA
- Nozzle output (500mA)
- Negative clutch output (500mA)
- A/C button
- Frontal nozzle button
- Back wiper button
- Diagnostic LED





PRODUCT CONFIGURATION

Choose the best options for your system

PIN	NEO 2 POSSIBLE CONFIGURATIONS HARDWARE 1
1	POWER SUPPLY
2	--
3	N.O. A/C KEY – 10A
4	BLOWER POTENTIOMETER OUTPUT (CENTER PIN)*
5	BLOWER POTENTIOMETER OUTPUT (MAX RESISTANCE PIN - CW)*
6	BLOWER POTENTIOMETER OUTPUT (MIN RESISTANCE PIN - CW)*
7	--
8	GND
9	POWER A/C KEY – 10A
10	VALVE POTENTIOMETER OUTPUT (CENTER PIN)
11	VALVE POTENTIOMETER OUTPUT (MAX RESISTANCE PIN - CW)
12	VALVE POTENTIOMETER OUTPUT (MIN RESISTANCE PIN - CW)
13	POWER DEF KEY – 10A
14	N.O. DEF KEY – 10A
15	--

OBS.1: It is possible to install potentiometers instead of power switches.

OBS.2: It is possible to install another on/off switch in the logo position.

PIN	NEO 2 POSSIBLE CONFIGURATIONS HARDWARE 2
1	POWER SUPPLY OR --
2	DIGITAL OUTPUT NEGATIVE 0.5A OR --
3	ANALOG OUTPUT 50mA OR --
4	-- OR --
5	-- OR --
6	DIGITAL OUTPUT POSITIVE 0.5A OR --
7	-- OR --
8	GND OR --
9	DIGITAL INPUT OR --
10	-- OR --
11	GND OR --
12	ANALOG INPUT OR DIGITAL INPUT
13	GND OR --
14	-- OR --
15	ANALOG INPUT OR DIGITAL INPUT

OBS.: It is possible to install potentiometers instead of power switches.

PIN	NEO 2 POSSIBLE CONFIGURATIONS HARDWARE 3						
1	POWER SUPPLY	OR	--	OR	OR	--	
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		PWM OUTPUT	
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	PWM OUTPUT	
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	PWM OUTPUT	
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		PWM OUTPUT	
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A
8	GND	OR	--	OR	--	OR	--
9	DIGITAL INPUT	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
13	GND	OR	--	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--

OBS.: It is possible to install potentiometers instead of power switches.



PIN	NEO 2 POSSIBLE CONFIGURATIONS - HARDWARE 4									
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--	
2	CENTER POTENTIOMETER BLOWER	OR	--	OR	--	OR	--	OR	--	
3	MAX POTENTIOMETER BLOWER	OR	--	OR	--	OR	--	OR	--	
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--	
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	DIGITAL OUTPUT POSITIVE 5A	OR	PWM OUTPUT	
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	DIGITAL OUTPUT POSITIVE 5A	OR	PWM OUTPUT	
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--	
8	GND	OR	--	OR	--	OR	--	OR	--	
9	FLAP POTENTIOMETER OUTPUT (CENTER PIN)	OR	--	OR	--	OR	--	OR	--	
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	
11	GND	OR	--	OR	--	OR	--	OR	--	
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	
13	GND	OR	--	OR	--	OR	--	OR	--	
14	FLAP POTENTIOMETER OUTPUT (MAX RESISTANCE PIN - CW)	OR	--	OR	--	OR	--	OR	--	
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	

OBS.: It is possible to install potentiometers instead of power switches.

PIN	NEO 2 POSSIBLE CONFIGURATIONS - HARDWARE 5									
1	POWER SUPPLY	OR	--	OR	--	OR	--			
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT			
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT			
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT			
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT			
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--			
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A			
8	GND	OR	--	OR	--	OR	--			
9	CAN L	OR	--	OR	--	OR	--			
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--			
11	GND	OR	--	OR	--	OR	--			
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--			
13	GND	OR	--	OR	--	OR	--			
14	CAN H	OR	--	OR	--	OR	--			
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--			

OBS.: It is possible to install potentiometers instead of power switches.

PIN	NEO 2 POSSIBLE CONFIGURATIONS HARDWARE 6									
1	POWER SUPPLY	OR	--							
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--							
3	ANALOG OUTPUT 50mA	OR	--							
4	CAN H	OR	--							
5	CAN L	OR	--							
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	--							
7	--	OR	--							
8	GND	OR	--							
9	ANALOG INPUT	OR	DIGITAL INPUT							
10	--	OR	--							
11	GND	OR	--							
12	ANALOG INPUT	OR	DIGITAL INPUT							
13	GND	OR	--							
14	--	OR	--							
15	ANALOG INPUT	OR	DIGITAL INPUT							

OBS.: It is possible to install potentiometers instead of power switches.



VENTILATION, TEMPERATURE and AIR DIRECTION

OEM

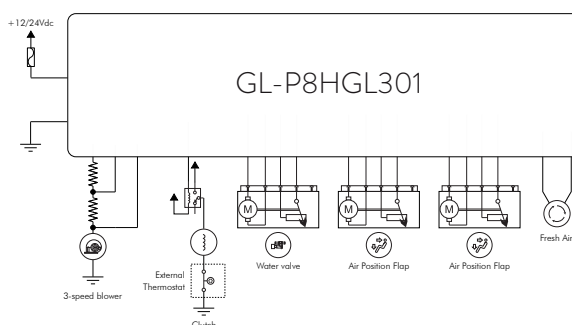
HVAC

Allows for speed, temperature and air direction adjustments

3-SPEED VENTILATION, PROPORTIONAL TEMPERATURE AND AIR DIRECTION CONTROLLER

GL-P8HGL301

- 3-Speed ventilation control
- Proportional hot water valve control
- 2 proportional air position flaps
- 1 Fresh Air flap
- Standard DIN radio size
- 500mA negative clutch output
- A/C button
- Fresh Air button
- Diagnostic LED



OEM

HVAC

CABIN / MUX



Use the panel as an interface and develop your own control algorithm

VENTILATION, PROPORTIONAL TEMPERATURE AND AIR DIRECTION CONTROLLER

GL-P8HGL302

- HMI – Human Machine Interface
- CAN Bus communication with ECU
- Knob position reading
- Button status reading
- Temperature sensor reading
- LED status writing
- Standard DIN radio size
- Up to 2 function buttons
- Up to 8 indication LEDs

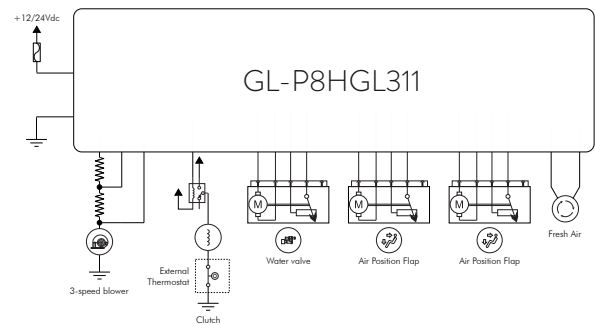


For vertical mounting option

3-SPEED VENTILATION, PROPORTIONAL TEMPERATURE AND AIR DIRECTION CONTROLLER

GL-P8HGL311

- 3-Speed evaporator power switch 16A@12V
- Proportional hot water valve control
- 2 proportional air position flaps
- 1 Fresh Air flap
- Standard DIN radio size
- Vertical format
- 500mA negative clutch output
- A/C button
- Fresh Air button
- Diagnostic LED





PRODUCT CONFIGURATION

Choose the best options for your system

PIN CN1	NEO 3 POSSIBLE CONFIGURATIONS - HARDWARE 1						
1	POWER SUPPLY	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 5A	OR	PWM OUTPUT	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--
9	DIGITAL INPUT	OR	CAN L	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
13	GND	OR	--	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	CAN H	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
PIN CN2							
1	POWER SUPPLY	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H3	OR	PWM OUTPUT
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H4	OR	PWM OUTPUT
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT
6	--	OR	--	OR	--	OR	--
7	--	OR	--	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	--	OR	--	OR	--	OR	--
12	ONE WIRE	OR	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
13	GND	OR	--	OR	--	OR	--
14	--	OR	--	OR	--	OR	--
15	--	OR	--	OR	--	OR	--

OBS.: It is possible to install potentiometers instead of power switches.

PIN	NEO 3 POSSIBLE CONFIGURATIONS - HARDWARE 2		
1	POWER SUPPLY – COMUM DEFROST KEY / MAX POT VALVE / MIN POT FLAP	OR	--
2	N.O. DEFROST KEY – 10A	OR	--
3	--	OR	MAX POT BLOWER (*)
4	--	OR	MIN POT BLOWER (*)
5	--	OR	CENTER POT BLOWER (*)
6	N.O. A/C KEY – 10A	OR	--
7	--	OR	MIN POT FLAP
8	GND – BACKLIGHT / MIN POT VALVE	OR	--
9	CENTER POT FLAP	OR	--
10	CENTER POT VALVE	OR	--
11	--	OR	--
12	POWER SUPPLY BACKLIGHT	OR	--
13	MAX POT FLAP	OR	--
14	--	OR	COMUM DEFROST KEY
15	POWER SUPPLY A/C KEY	OR	--

* The potentiometer is not mounted when the power switch is used.

PIN	NEO 3 POSSIBLE CONFIGURATIONS - HARDWARE 3								
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 5A	OR	PWM OUTPUT	OR	--	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--	OR	--
9	DIGITAL INPUT	OR	CAN L	OR	ONE WIRE	OR	ANALOG INPUT	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
13	GND	OR	--	OR	--	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	CAN H	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--

OBS.: It is possible to install potentiometers instead of power switches.



PRODUCT CONFIGURATION

PIN	NEO 3 POSSIBLE CONFIGURATIONS - HARDWARE 4				
1	POWER SUPPLY	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
3	ANALOG OUTPUT 50mA	OR	--	OR	--
4	ANALOG OUTPUT 50mA	OR	--	OR	--
5	ANALOG OUTPUT 50mA	OR	--	OR	--
6	DIGITAL OUTPUT POSITIVE 5A	OR	--	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	ONE WIRE
8	GND	OR	--	OR	--
9	DIGITAL INPUT	OR	CAN L	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
11	GND	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
13	GND	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	CAN H
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--

OBS.: It is possible to install potentiometers instead of power switches.



MAIN FUNCTIONS

REFRIGERATION

HEATING

VENTILATION

CHARACTERISTICS

- Innovative design
- Designed for heavy-duty applications
- Analog commands
- Backlit buttons and symbols
- Customer logo on display
- Screwless installation
- Automotive connector
- High frontal protection grade – IP 54
- Water valve activation via mechanical cable (optional)

CONFIGURATION OPTIONS

INPUTS: Analog and Digital

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM.

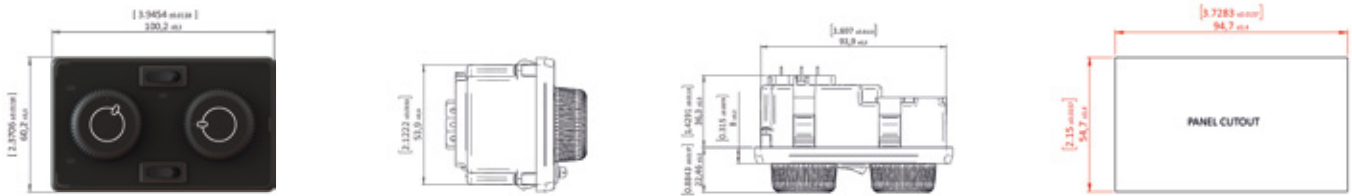
COMMUNICATION: ECU Module or Telematics Module

AVAILABLE FOR

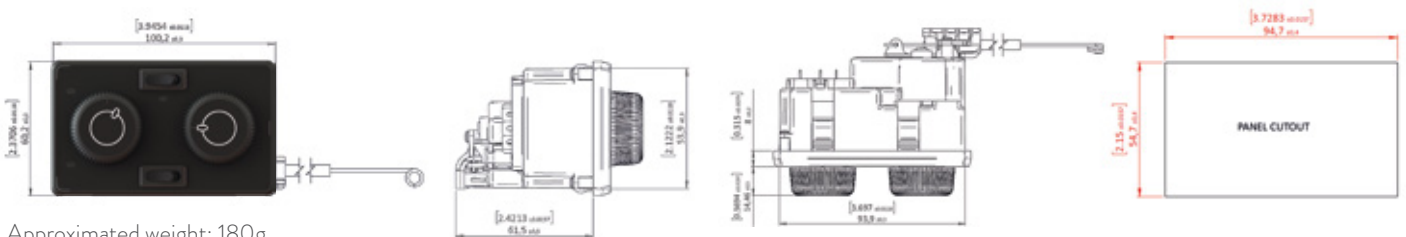


TECHNICAL DATA

NEO COMPACT | ELECTRONIC CONTROL



NEO COMPACT | MECHANICAL CONTROL



Approximated weight: 180g

CONNECTORS



MINI-FIT 6 ways
Part Number: 39-01-2060
Terminal – PN: 39-00-0038
Manufacturer: Molex



FASTON 5 ways
Part Number: 754C3
Terminal – PN: 735222-2
Manufacturer: Faston



TEMPERATURE SENSOR
10KΩ @ 25°C
Part Number: GL-GS814
Manufacturer: Globus

TECHNICAL DATA

NOMINAL VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	9 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
OUTPUT SHORT-CIRCUIT	Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +125°C / -40°F to +257°F
TEMPERATURE SENSOR	NTC - See individual product description
DEGREE OF FRONT PROTECTION	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	40mA @ 12 VDC / 20mA @ 24 VDC **
STANDBY CONSUMPTION	N/A **

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



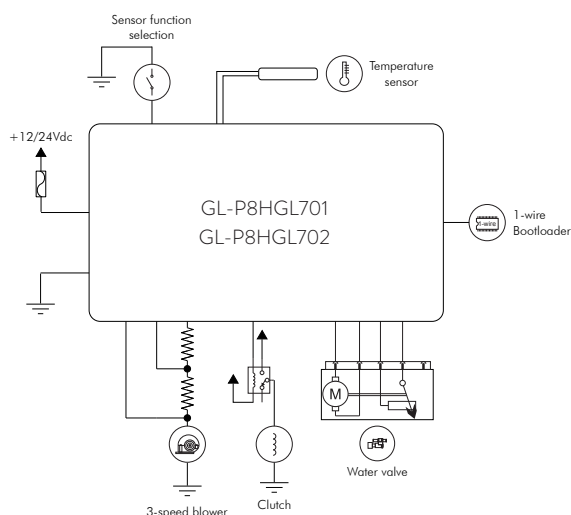
CUSTOMIZABLE
INTERFACES



3-SPEED FAN AND TEMPERATURE CONTROL BY PROPORTIONAL VALVE AND COMPRESSOR CYCLING

GL-P8HGL701 - 10 positions | GL-P8HGL702 - 22 positions

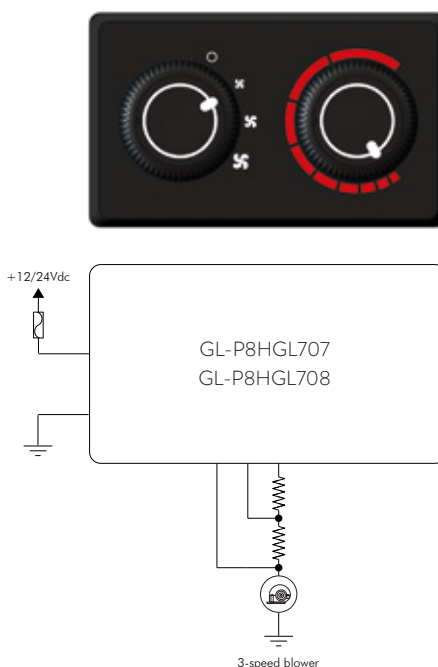
- 3 evaporator speeds via 16A@12V and 10A@24V power switch
- Proportional control of the hot water valve
- Coil / return temperature sensor
- Negative clutch output 500mA
- AC Button
- Diagnostics LED



3-SPEED FAN CONTROL AND HEATING WITH MECHANICAL CABLE

GL-P8HGL707 - 10 positions | GL-P8HGL708 - 22 positions

- 3 evaporator speeds via 16A@12V and 10A@24V power switch
- Proportional mechanical control of the hot water valve



PRODUCT CONFIGURATION

Choose the best options for your system

PIN CN1	NEO COMPACT POSSIBLE CONFIGURATIONS - HARDWARE 1				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	GND	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	GND	OR	--	OR	--
PIN CN2					
1	POWER SUPPLY	OR	--	OR	--
2	GND	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR		OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ONE WIRE	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	--	OR	--	OR	--
8	--	OR	--	OR	--

PIN CN1	NEO COMPACT POSSIBLE CONFIGURATIONS - HARDWARE 2				
1	POWER SUPPLY	OR	--	OR	--
2	GND	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	COMMON RELAY COMPRESSOR	OR	--	OR	THIS PIN ALSO MONITORED BY THE MICROPROCESSOR.
5	GND	OR	--	OR	
6	N/A RELAY COMPRESSOR	OR	--	OR	--

NEO PLUS

OEM

HVAC + R

CABIN / MUX



NEO 1 PLUS

NEO 2 PLUS

NEO 3 PLUS

MAIN FUNCTIONS

REFRIGERATION

HEATING

VENTILATION

AIR DIRECTION

MULTIPLEX

CABIN CONTROL

CHARACTERISTICS

- Innovative design
- Dynamic RGB backlight
- Available as HMI - Human Machine Interface (CAN Bus)
- Function Hourmeters
- Graphic 128x64px OLED Display
- Circular Graphic 128x128px OLED Display
- Operation Screen with client logo
- 10 selectable languages via menu



Ventilation function active panel



Heating function active panel



Cooling function active panel

AVAILABLE FOR



CHOOSE BETWEEN HORIZONTAL
OR VERTICAL (i) FORMATS

INTERFACE POSITIONS



POWER SWITCH

VENTILATION KNOBS

3 speed 16A@12V AND 10A@24V

4 speed 25A@12V AND 15A@24V

* Not available in Neo 3 Plus central position



POTENTIOMETER / ENCODER

POTENTIOMETER WITH 22, 10, 5 OR 3 POSITIONS

Central button available



ENCODER WITH CENTRAL BUTTON

Dynamic RGB button available



DISPLAY

OLED GRAPHIC DISPLAY 128x64px

Horizontal and vertical position available



CIRCULAR OLED GRAPHIC DISPLAY 128x128px

Customized operation screen



2 DIGITS / 7 SEGMENTS LED DISPLAY

4 button keyboard

2 status LEDs available



BUTTONS

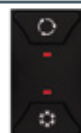
5 BUTTON KEYBOARD

4 status LEDs available



2 INDIVIDUAL BUTTONS

6 status LEDs available



Present a not yet available function and Globus will analyze its development.

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI

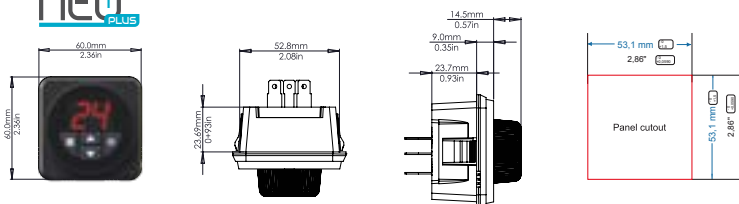


TECHNICAL DATA

OEM

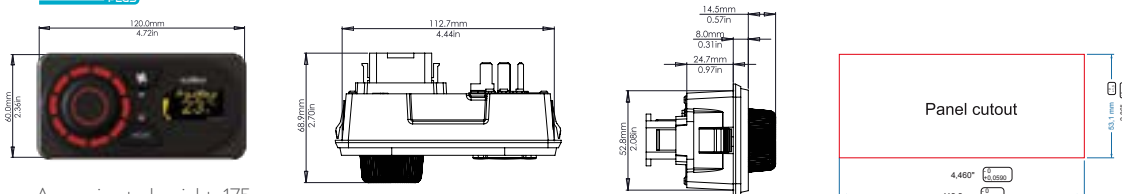
HVAC + R

NEO PLUS



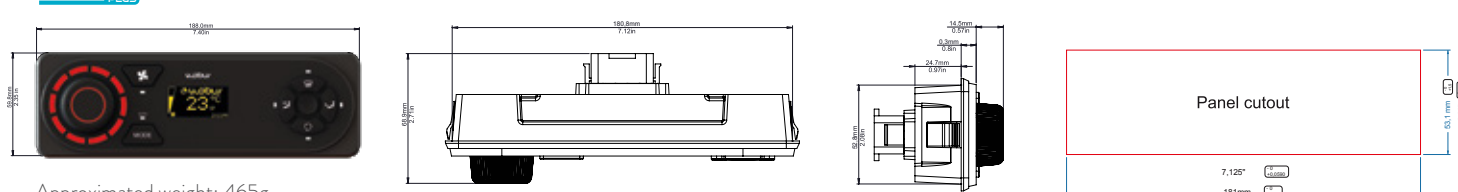
Approximated weight: 80g

NEO PLUS



Approximated weight: 175g

NEO PLUS



Approximated weight: 465g

CONNECTORS



3 SPEED POWER SWITCH
Part Number: 754C3
Manufacturer: Koch Sales



4 SPEED POWER SWITCH
Part Number: 12110047
Manufacturer: Delphi



MATE-N-LOK 15 ways
Part Number: 1-480710 - 0
Terminal - PN: 350689-3
Manufacturer: Tyco Electronics

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA/5A *
OUTPUT SHORT-CIRCUIT	Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +125°C / -40°F to +257°F
TEMPERATURE SENSOR	NTC - See individual product description
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION (NEO2 Plus)	55mA @ 12 VDC / 30mA @ 24 VDC **
MAXIMUM CURRENT CONSUMPTION (NEO3 Plus)	80mA @ 12 VDC / 40mA @ 24 VDC **
STANDBY CONSUMPTION	10mA @ 12 VDC / 20mA @ 24 VDC **

* According to product configuration. ** Consumption may vary according to customer specifications. We keep the right to update or change information regarding products without prior notice.



OEM

HVAC + R

OLED Display, backlit buttons and symbols

CUSTOMIZABLE CLIMATIZATION CONTROL*

- Innovative Design
- Backlit Symbols and Buttons
- Customer logo on the panel (optional)
- Screwless installation
- Designed for heavy-duty applications
- Up to 6 indication LEDs



OEM

HVAC + R

CABIN / MUX

Use the panel as an interface and develop your own control algorithm

COMPLETELY CUSTOMIZABLE HMI*

- HMI – Human Machine Interface
- CAN Bus Communication with ECU
- Knob Position Reading
- Button Status Reading
- LEDs status writing
- Display Writing
- Up to 3 function buttons
- Up to 6 indication LEDs



For the vertical mounting option

FLEXIBLE AND CUSTOMIZABLE CONTROL FOR HVAC*

- Innovative Design
- Backlit symbols and buttons
- Customer logo on the panel (optional)
- Screwless installation
- Designed for heavy-duty applications
- Up to 6 indication LEDs
- Vertical position installation



PRODUCT CONFIGURATION

Choose the best options for your system

PIN	NEO 2 PLUS POSSIBLE CONFIGURATIONS HARDWARE 1								
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	ONE WIRE
7	GND	OR	--	OR	--	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
13	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	ANALOG INPUT	OR	DIGITAL INPUT
14	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT	OR	CAN L
15	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	CAN H



PRODUCT CONFIGURATION

PIN	NEO 2 PLUS POSSIBLE CONFIGURATIONS HARDWARE 2									
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--	
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--	
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--	
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT	OR	CAN L	
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	CAN H	
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR		
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	ONE WIRE	
8	GND	OR	--	OR	--	OR	--	OR	--	
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	---	
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	
11	GND	OR	--	OR	--	OR	--	OR	--	
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	
13	GND	OR	--	OR	--	OR	--	OR	--	
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--	



OEM

HVAC + R

OLED Display, backlit buttons and symbols

CUSTOMIZABLE CLIMATIZATION CONTROL*

- Innovative Design
- Backlit symbols and buttons
- Customer logo on the panel (optional)
- Screwless installation
- Designed for heavy-duty applications
- Up to 8 function buttons
- Up to 10 indication LEDs
- Standard DIN radio size



OEM

HVAC

For the vertical mounting option

FLEXIBLE AND CUSTOMIZABLE HVAC CONTROLLER*

- Innovative Design
- Backlit symbols and buttons
- Customer logo on the panel (optional)
- Screwless installation
- Standard DIN radio size
- Designed for heavy-duty applications





PRODUCT CONFIGURATION

Choose the best options for your system

PIN	NEO 3 PLUS POSSIBLE CONFIGURATIONS HARDWARE 1								
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT	OR	CAN L
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	CAN H
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	ONE WIRE
8	GND	OR	--	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
13	GND	OR	--	OR	--	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--

PIN CN1	NEO 3 PLUS POSSIBLE CONFIGURATIONS HARDWARE 2								
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT	OR	CAN L
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT	OR	CAN H
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 5A	OR	--
8	GND	OR	--	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
11	GND	OR	--	OR	--	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
13	GND	OR	--	OR	--	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
PIN CN2									
1	POWER SUPPLY	OR	--	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H3	OR	PWM OUTPUT		
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT		
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H4	OR	PWM OUTPUT		
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT		
6	GND	OR	--	OR	--	OR	--	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--		
8	GND	OR	--	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--	OR	--
11	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--	OR	--	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	ONE WIRE		
13	GND	OR	--	OR	--	OR	--	OR	--
14	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H5	OR	PWM OUTPUT		
15	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT		

OBS.: It is possible to install potentiometers instead of power switches.

NEO



THE MOST COMPLETE LINE
OF CONNECTIVITY SOLUTIONS KEEPS
GROWING AND INNOVATING.

MORE NEWS COMING SOON!



FOX

OEM

HVAC + R

CABIN / MUX



FOX

FOX
OLED DISPLAY

FOX
OLED DISPLAY CABIN

FOX
OLED DISPLAY CAN

MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

CABIN CONTROL

MULTIPLEX

SPECIAL FUNCTIONS

CHARACTERISTICS

- Available as HMI - Human Machine Interface (CAN Bus)
- Highly customizable
- Personalized button symbols
- Customer logo on display
- Individual multicolored indicators
- 13 backlit rubber buttons keyboard
- RTC (Real Time Clock) with battery
- Function hourmeters
- Robust automotive connector
- OLED GRAPHIC DISPLAY 128x64px
- Diagnostics menu (data logger)
- Two temperature scales (°F or °C)
- 10 selectable languages via menu
- Bluetooth and Wi-Fi modules Interface

AVAILABLE FOR

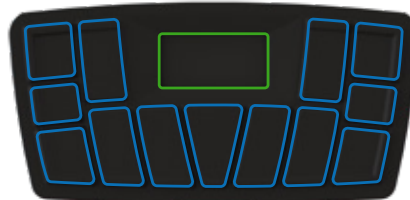


MODERN AND ROBUST LINE OF CONTROLLERS DESIGNED TO PROVIDE THE MOST COMFORT TO THE USER

ALL FUNCTIONS ARE COMPLETELY CUSTOMIZABLE

BUTTON POSITIONS

OLED GRAPHIC DISPLAY



FOX

DISPLAY

OLED GRAPHIC DISPLAY 128x64px
Logo on display
10 Languages
Selectable temperature scale (°F or °C)



BUTTONS

PERSONALIZED 13 BUTTON KEYBOARD
Personalized button symbols
Intelligent functions lights
Backlit
Individual multicolored indicators



DISPLAY EXAMPLES

Menu



Function Pop-up



Hourmeters



Failure Description



CONFIGURATION OPTIONS

INPUTS / OUTPUTS: See product configuration table

COMMUNICATION: CAN Bus, Remote I/O network (through ECU), One Wire, Telematics

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI



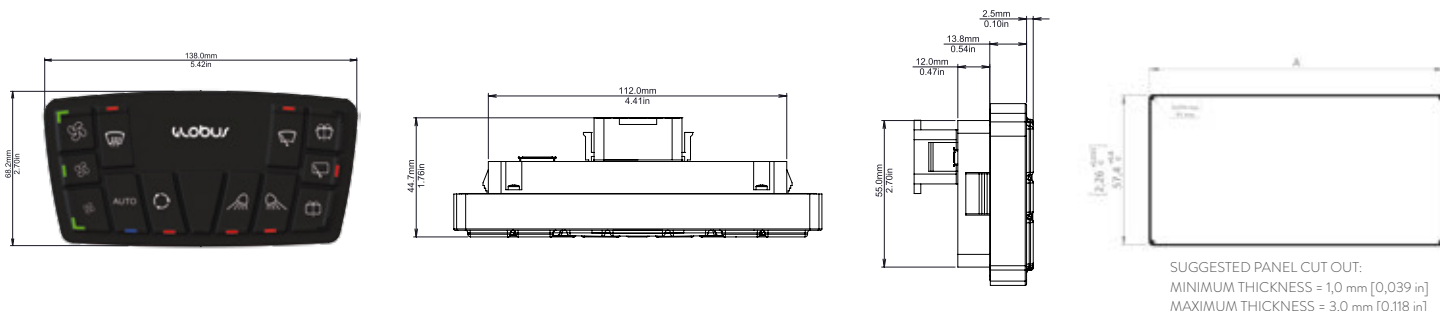
TECHNICAL DATA

FOX

OEM

HVAC + R

CABIN / MUX



Approximated weight: 160g

CONNECTORS



MATE-N-LOK 15 ways
Part Number: 1-480710 - 0
Terminal - PN: 350689-3
Manufacturer: Tyco Electronics

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATION VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC - 10k @ 25°C/ 77°F
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	CAN-SAE J1939 / One Wire
MAXIMUM CURRENT CONSUMPTION	120 to 150mA *
STANDBY CONSUMPTION	50 to 100 mA *

* Consumption in stand by mode may vary depending on client specifications.
We keep the right to update or change information regarding products without prior notice

RUBBERIZED, ROBUST AND CONFIGURABLE CONTROLLER CONCEPT*

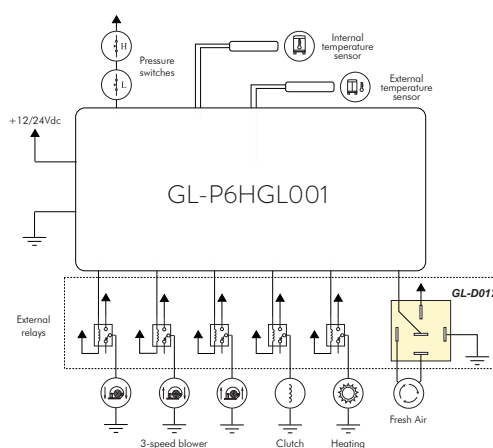
- HMI (Human Machine Interface) allows button state reading and LED writing
- CAN Bus communication
- Highly customizable
- Control software developed by customer



HVAC+R CONTROLLER CONCEPT | RUBBERIZED AND OLED GRAPHIC DISPLAY

*GL-P6HGL001

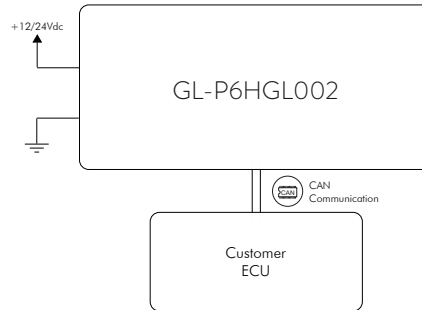
- 3 speed evaporator fan
- Automatic heating and refrigeration modes
- Pressure switch input
- Return temperature sensor input
- External temperature sensor input
- Clutch relay output
- Heating relay output
- Fresh air output



HVAC+R CONTROLLER CONCEPT | RUBBERIZED AND OLED GRAPHIC DISPLAY

GL-P6HGL002

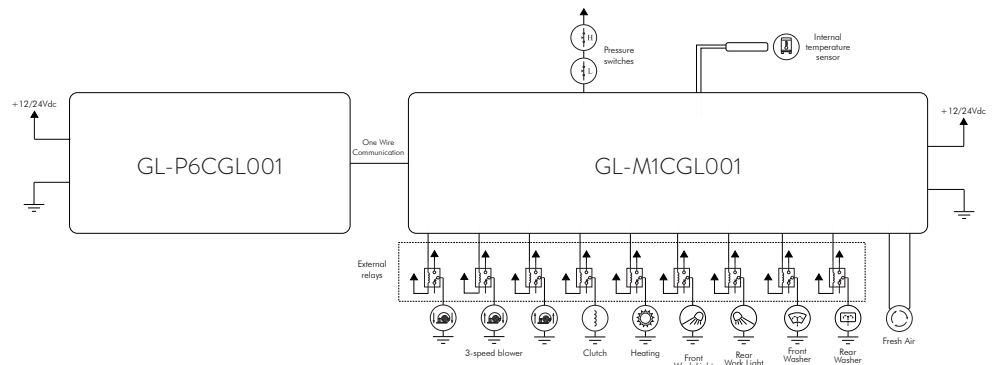
- HMI (Human Machine Interface) allows button state reading and LED writing
- CAN Bus communication with ECU
- Control software developed by customer



HVAC+R CONTROLLER CONCEPT | RUBBERIZED AND OLED GRAPHIC DISPLAY

GL-P6CGL001+MICGL001

- 3 speed evaporator fan
- Front and rear wiper nozzle
- Front and rear windshield wiper
- Front and rear work light
- Return temperature sensor input
- Pressure switch input
- Fresh Air output
- Clutch relay output
- Extension ECU (GL-MICGL001)
- One Wire communication



Choose the best options for your system

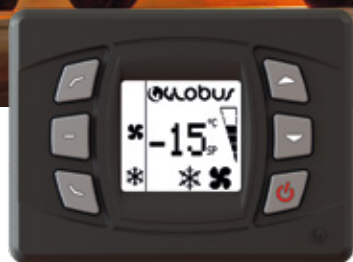
PIN	FOX POSSIBLE CONFIGURATIONS - HARDWARE						
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	GND	OR	--	OR	--	OR	--
7	POWER SUPPLY	OR	--	OR	--	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	CAN L	OR	--
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	CAN H	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
12	ONE WIRE	OR	DIGITAL INPUT	OR	--	OR	--
13	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
14	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT
15	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR		OR	PWM OUTPUT

TWISTER

OEM

HVAC

HVAC + R



TWISTER



EZ TWISTER

MAIN FUNCTIONS

REFRIGERATION

HEATING

VENTILATION

DEFROST

CHARACTERISTICS

- Customizable design
- 6 backlit buttons
- Backlit graphic 128x96px display
- Available as HMI - Human Machine Interface (CAN Bus)
- Customizable parameters
- Failure indication on display
- Screwless installation

AVAILABLE FOR



PRACTICAL CONTROLLER LINE WITH BACKLIT DISPLAY, FACILITATING THE USE OF ITS FUNCTIONS

BUTTON POSITIONS

GRAPHIC DISPLAY



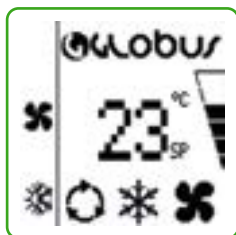
TWISTER



EZTWISTER

DISPLAY

DIGITAL BACKLIT
DISPLAY 128x96px
Logo on display
Selectable temperature scale °F or °C
Diagnostic Menu
Parameter Adjustment



BUTTONS

PERSONALIZED 6 BUTTON KEYBOARD
Personalized button symbols
Intelligent functions lights
Backlit
Individual multicolored indicators



FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES

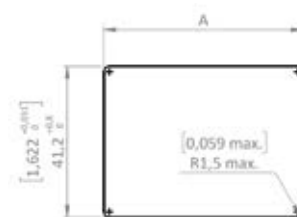
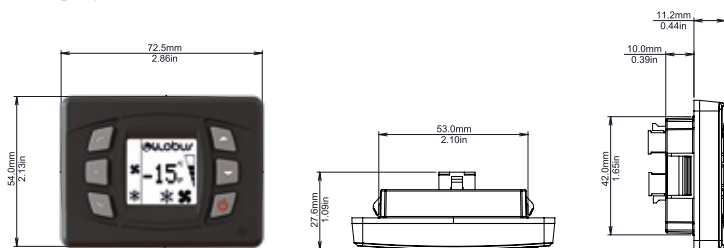


TECHNICAL DATA

TWISTER

OEM

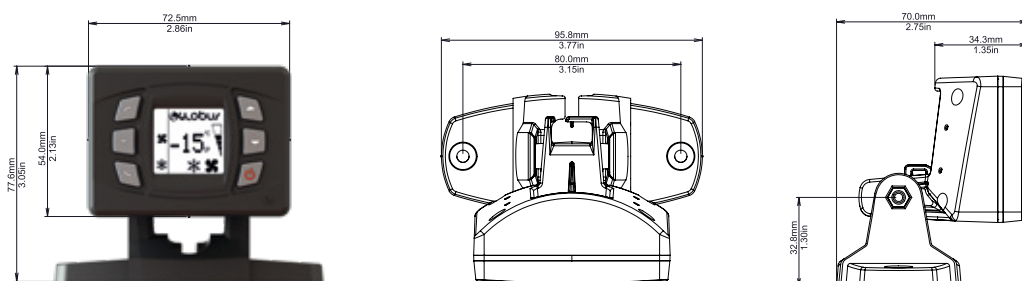
HVAC + R



SUGGESTED PANEL CUT OUT:
MINIMUM THICKNESS = 1,2 mm [0,047 in]
MAXIMUM THICKNESS = 3,0 mm [0,118 in]

Approximated weight: 60g

EZ TWISTER



Approximated weight: 115g

CONNECTORS



MICRO-FIT 6 ways
PN: 662006113322
Terminal - PN: 66210113722
Manufacturer: WÜRTH



MICRO-FIT 8 ways
PN: 662006113322
Terminal - PN: 66210113722
Manufacturer: WÜRTH

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE RANGE	-30°C to +85°C / -22°F to +185°F
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC 10K@25°C/77°F
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	N/A
MAXIMUM CURRENT CONSUMPTION	30mA *
STANDBY CONSUMPTION	10mA *

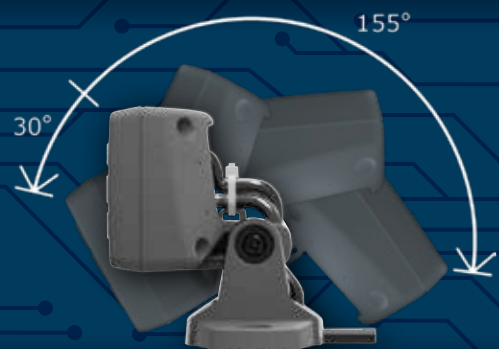
* Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.





FLEXIBLE

EZ TWISTER



EASY INSTALLATION

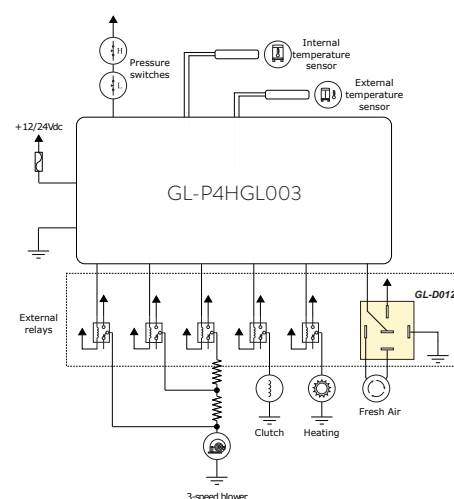


TWISTER

AIR CONDITIONING CONTROL PANEL WITH GRAPHIC DISPLAY

GL-P4HGL003

- Refrigeration, heating and Auto Modes
- 3 speed fan, clutch, fresh air and heating output
- Return temperature sensor
- External temperature sensor
- Pressure Switch

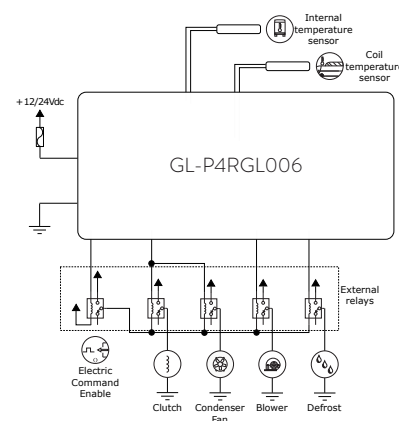


TWISTER

TRANSPORT REFRIGERATION CONTROL PANEL WITH GRAPHIC DISPLAY

GL-P4RGL006

- Defrosting Function configurable by time or temperature
- Evaporator output
- Compressor/Condenser output
- Return temperature sensor
- Coil temperature sensor
- Defrost output
- Enable electric command output

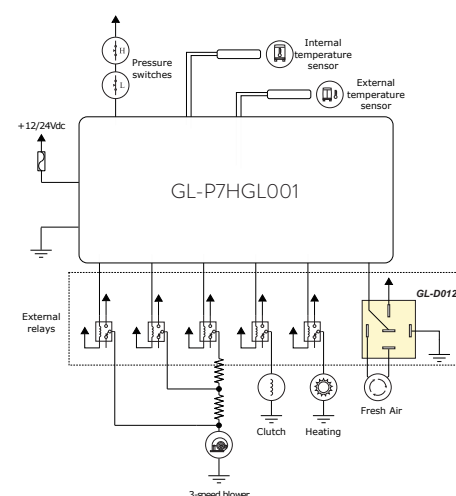




AIR CONDITIONING CONTROL PANEL WITH GRAPHIC DISPLAY

GL-P7HGL001

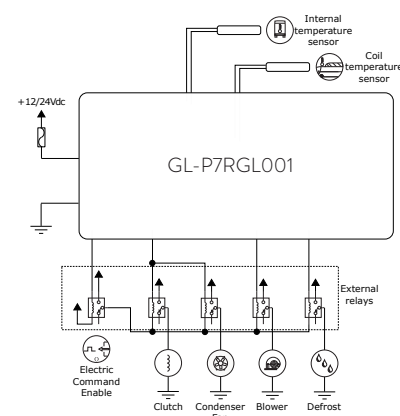
- Refrigeration, heating and Auto Modes
- 3 speed fan, clutch, fresh air and heating output
- Return temperature sensor
- External temperature sensor
- Pressure Switch



TRANSPORT REFRIGERATION CONTROL PANEL WITH GRAPHIC DISPLAY

GL-P7RGL001

- Defrosting Function configurable by time or temperature
- Evaporator output
- Compressor/Condenser output
- Return temperature sensor
- Coil temperature sensor
- Defrost output
- Enable electric command output



PRODUCT CONFIGURATION

Choose the best options for your system

PIN CN1	TWISTER - EZ TWISTER POSSIBLE CONFIGURATIONS - HARDWARE 1				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
PIN CN2					
1	POWER SUPPLY 5V – TRANSDUCER	OR	--	OR	--
2	GND	OR	--	OR	--
3	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	DIGITAL INPUT	OR	ANALOG INPUT	OR	ONE WIRE
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
8	POWER SUPPLY	OR	--	OR	--

PIN CN1	TWISTER - EZ TWISTER POSSIBLE CONFIGURATIONS - HARDWARE 2				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
PIN CN2					
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
2	GND	OR	--	OR	--
3	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	ONE WIRE
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
8	POWER SUPPLY	OR	--	OR	--

TWISTER | EZ TWISTER

PRODUCT CONFIGURATION

PIN	TWISTER - EZ TWISTER POSSIBLE CONFIGURATIONS - HARDWARE 3				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
2	GND	OR	--	OR	--
3	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	DIGITAL INPUT	OR	ANALOG INPUT	OR	ONE WIRE
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
8	POWER SUPPLY	OR	--	OR	--

Note: Buzzer inside of panel.

PIN	TWISTER - EZ TWISTER POSSIBLE CONFIGURATIONS - HARDWARE 4				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
3	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	ONE WIRE
6	CAN L	OR	--	OR	--
7	CAN H	OR	--	OR	--
8	POWER SUPPLY	OR	--	OR	--

PIN	TWISTER - EZ TWISTER POSSIBLE CONFIGURATIONS - HARDWARE 5				
1	POWER SUPPLY				
2	GND				
3	POWER SUPPLY FOR RTC				
4	CAN L				
5	ONE WIRE				
6	CAN H				

BASIC

OEM

HVAC + R

CABIN / MUX



BASIC

BASIC
LITE

BASIC
CABIN

MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

CABIN CONTROL

MULTIPLEX

SPECIAL FUNCTIONS

CHARACTERISTICS

- Available as HMI – Human Machine Interface (CAN Bus)
- Innovative design
- Customizable functions
- Multifunction
- Function Hourmeters
- Available in the vertical and horizontal versions
- Two temperature scales (°F or °C)
- Integrated or remote I/Os (ECU)
- Telematics through additional module
- Bluetooth and Wi-Fi Modules Interface
- Automotive connector
- One Wire Communication (optional)
- Customer logo on the panel (optional)
- USB interface through ECU (optional)

AVAILABLE FOR



TRADITIONAL AND MULTIFUNCTIONAL CONTROL PANEL. HIGH QUALITY AND LOW COST.

CHOOSE BETWEEN HORIZONTAL OR VERTICAL (I) FORMATS.



DISPLAY

DIGITAL DISPLAY
2 digits (all)
3 digits (available in the i version)
Selectable temperature scale °F or °C



BUTTONS

7, 9 OR 12 BUTTON KEYBOARD

Multiple functions at your disposal
in a single control panel

Personalized button symbols
Intelligent functions lights
Backlit



CONFIGURATION OPTIONS

INPUTS: Analog and Digital

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM

COMMUNICATION: ECU Module or Telematics Module

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES

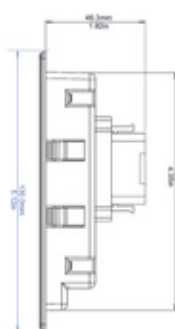


HMI



TECHNICAL DATA

BASIC
CABIN

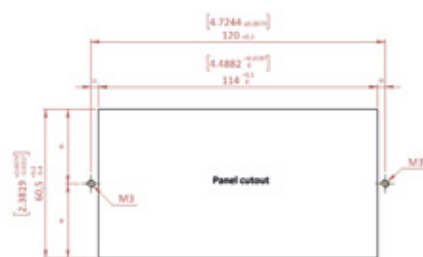
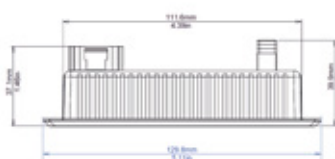
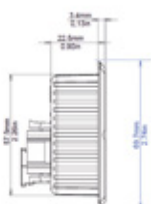


OEM

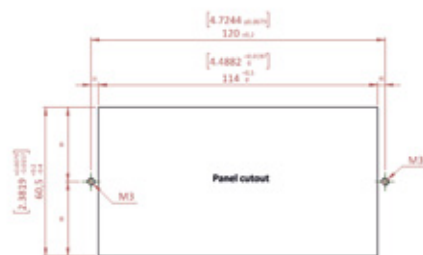
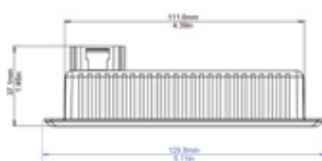
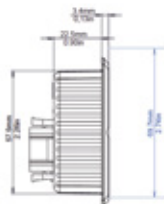
HVAC + R

CABIN / MUX

BASIC



BASIC
LITE



Approximated weight: 110g

CONNECTORS

BASIC



MATE-N-LOK 9 ways
Part Number: 880125 - 0
Terminal - PN: 880685-2
Manufacturer: Tyco Electronics

BASIC



POSITIVE LOCK 2 ways
Part Number: 926522 - 2
Terminal - PN: 8806456
Manufacturer: Tyco Electronics

BASIC
LITE



MINI-FIT 12 ways
Part Number: 39-01-2120
Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE	-40°C to +85°C / -40°F to +185°F (Normal or extended temperature range options)
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC (Other types under request)
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	50mA @ 12 VDC / 55mA @ 24 VDC *
STANDBY CONSUMPTION	N/A

* Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

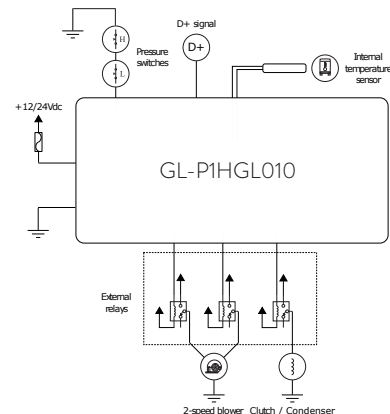


BASIC

AUTOMOTIVE AIR CONDITIONING CONTROL PANEL COOLING

GL-P1HGL010

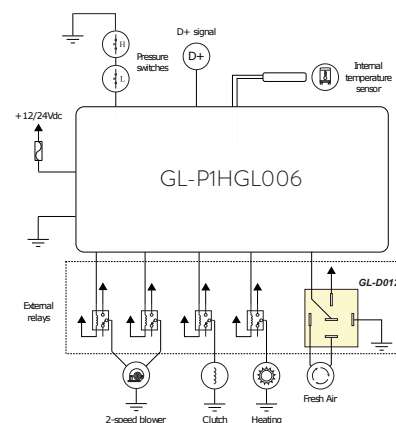
- Air conditioning (only cooling)
- 2 ventilation speeds (high and low + auto)



AUTOMOTIVE AIR CONDITIONING CONTROL PANEL COOLING, HEATING AND FRESH AIR

GL-P1HGL006

- Air conditioning (heating and cooling)
- 2 ventilation speeds (high and low + auto)
- Fresh Air



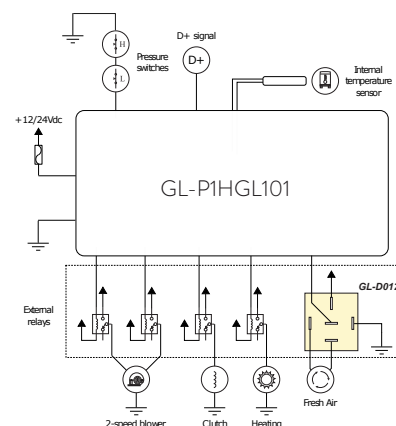
BASIC

LITE

AUTOMOTIVE AIR CONDITIONING CONTROL PANEL COOLING, HEATING AND FRESH AIR

GL-P1HGL101

- Air conditioning (heating and cooling)
- 2 ventilation speeds (high and low + auto)
- Fresh Air



BASIC

PANEL WITH REMOTE ECU AND TELEMATICS MODULE

GL-P1HGL011

- One Wire Communication
- HMI – Human Machine Interface
- CAN Bus communication with ECU

TELEMATICS MODULE - GL-M1SGL002

- One Wire Communication
- Bluetooth

AC MODULE - GL-M1HGL003

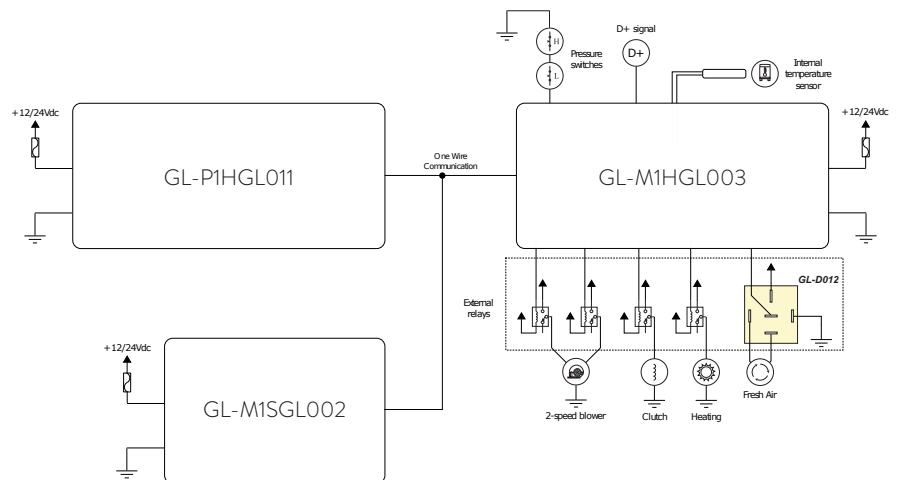
- Air Conditioning (heating and cooling)
- 2 ventilation speeds (high and low + auto)
- Fresh Air
- Pressure Switch
- Compressor
- Condenser



GL-M1SGL002



GL-M1HGL003



PANEL WITH REMOTE ECU FOR DIESEL MOTOR CONTROL

GL-G5500

- Start, stop and motor failure control

ECU - GL-W3101

Inputs:

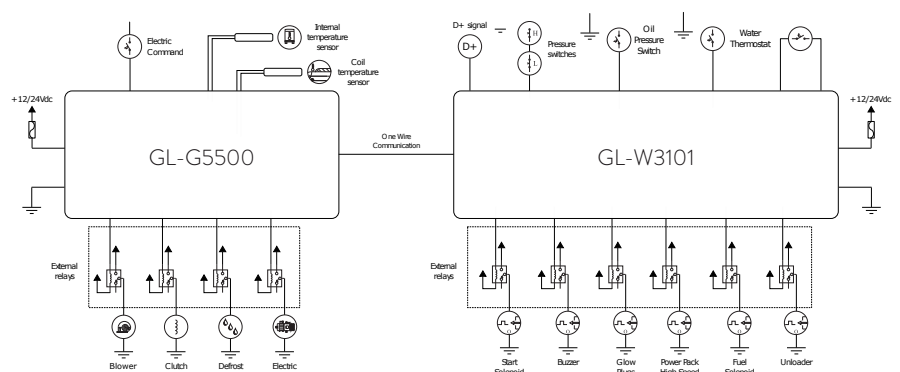
- D+ signal
- Pressure Switches
- Oil Pressure Switch
- Water Thermostat
- Manual Control
- Water Level

Outputs:

- Start Solenoid
- Fuel Solenoid
- Buzzer
- Spark plug heating
- Engine acceleration
- Unloader



GL-W3101



For the vertical mounting option

FLEXIBLE AND CUSTOMIZABLE CABIN CONTROL PANEL IN VERTICAL FORMAT *

- Start, stop and motor failure control
- HMI – Human Machine Interface
- CAN Bus communication with ECU
- 9 or 12 buttons
- Customizable Functions
- Function Indication LEDs
- 3 Digits Display – 7 segments
(optional only in the 9 button option)


BASIC

PRODUCT CONFIGURATION

Choose the best options for your system

PIN CN1	BASIC POSSIBLE CONFIGURATIONS- HARDWARE 1		
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ONE WIRE
PIN CN2			
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
2	GND	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
5	GND	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT
7	POWER SUPPLY	OR	--
8	DIGITAL INPUT	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT

PIN CN1	BASIC LITE POSSIBLE CONFIGURATIONS- HARDWARE 2		
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT
2	GND	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A		--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT
5	GND	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT
7	POWER SUPPLY	OR	--
8	DIGITAL INPUT	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
11	ONE WIRE	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT



MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

CABIN CONTROL

MULTIPLEX

SPECIAL FUNCTIONS

CHARACTERISTICS

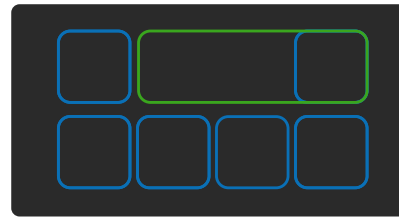
- Available as HMI - Human Machine Interface (CAN Bus)
- Compact size
- Exclusive design
- Graphic 128x64px OLED Display
- Friendly interface
- Backlit buttons
- Integrated or remote I/Os (ECU)
- USB interface through ECU (optional)
- Customizable Functions
- Automotive connector
- Diagnostics Menu
- Parameter Adjustment Menu
- Two temperature scales (°F or °C)
- Bluetooth and Wi-Fi Modules Interface
- Function Hourmeters
- 10 selectable languages via menu

AVAILABLE FOR



CUSTOMIZABLE CONTROLLER COMPLETE, COMPACT, EASY OPERATION.

INTERFACE POSITIONS



MiD

DISPLAY

7 SEGMENT LED DISPLAY
3 OR 4 DIGITS OR 128x64px OLED
Selectable temperature scale °F or °C



BUTTONS

KEYBOARD WITH 5 OR 6 CUSTOM BUTTONS
Custom Symbols
Backlit
Individual status indicators



DISPLAY EXAMPLES

Menu



Function Pop-up



Hourmeters



Failure Description



CONFIGURATION OPTIONS

INPUTS: Analog and Digital

OUTPUTS: Positive and Negative Digitals, Bridge (flap motor) and PWM or Analogs (external ECU)

OPTIONAL COMMUNICATION: One Wire, LIN Bus, CAN Bus, I/Os integrated remotely (through ECU), Telematics Module

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI



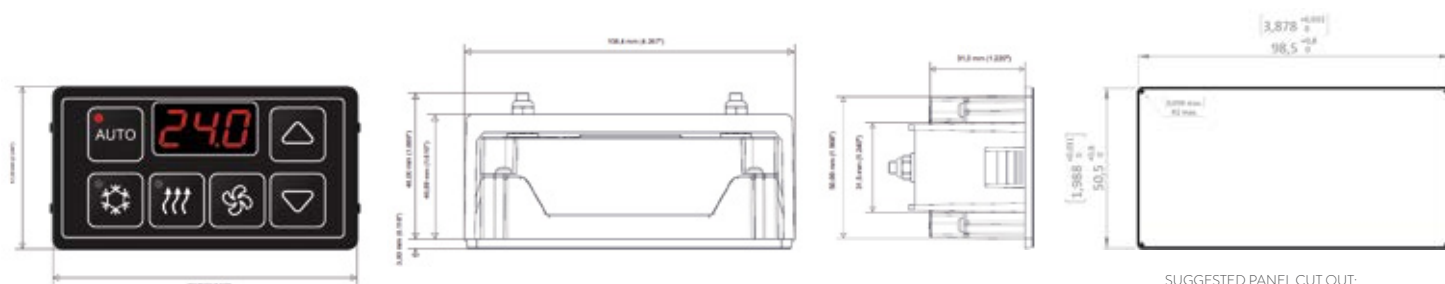
TECHNICAL DATA

MiD

OEM

HVAC + R

CABIN / MUX



Approximated weight: 315g

SUGGESTED PANEL CUT OUT:
 MINIMUM THICKNESS = 1,5 mm [0,059 in]
 MAXIMUM THICKNESS = 3,0 mm [0,118 in]

CONNECTORS



MATE-N-LOK 15 ways
 Part Number: 1-480710 - 0
 Terminal - PN: 350689-3
 Manufacturer: Tyco Electronics

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F (Normal or extended temperature range options)
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC (Other types under request)
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	110mA @ 12 VDC / 80mA @ 24 VDC *
STANDBY CONSUMPTION	48mA @ 12 VDC / 45mA @ 24 VDC *

* Consumption may vary according to customer specifications.
 We keep the right to update or change information regarding products without prior notice.



VENTILATION AND TEMPERATURE

OEM

HVAC

CABIN / MUX

AIR CONDITIONING CONTROL PANEL WITH OLED DISPLAY*

- Graphic OLED display
- Backlit symbols and buttons
- Client logo on panel (optional)
- Fixation without frontal screws
- Up to 2 indication LEDs per button



AIR CONDITIONING CONTROL PANEL WITH 7 SEGMENT DISPLAY*

- 7 segment display
- Backlit symbols and buttons
- Client logo on panel (optional)
- Fixation without frontal screws
- Up to 2 indication LEDs per button



REFRIGERATION

OEM

HVAC

CABIN / MUX

REFRIGERATION CONTROL PANEL WITH OLED DISPLAY*

- Graphic OLED display
- Backlit symbols and buttons
- Client logo on panel (optional)
- Fixation without frontal screws
- Up to 2 indication LEDs per button



Choose the best options for your system

PIN	MID POSSIBLE CONFIGURATIONS - HARDWARE 1						
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	GND	OR	--	OR	--	OR	--
7	POWER SUPPLY	OR	--	OR	--	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	CAN H
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	CAN L
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ANALOG INPUT	OR	DIGITAL INPUT	OR	ONE WIRE
13	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
14	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
15	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--

PIN	MID POSSIBLE CONFIGURATIONS - HARDWARE 2						
1	POWER SUPPLY	OR	--	OR	--		
2	GND	OR	--	OR	--		
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
4	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		
7	GND	OR	--	OR	--		
8	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H		
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
10	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		
11	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
12	DIGITAL OUTPUT POSITIVE 0.5A	OR	POWER SUPPLY 5V – TRANSDUCER	OR	--		
13	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
14	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H		
15	GND	OR	--	OR	--		
16	ANALOG INPUT	OR	DIGITAL INPUT	OR	--		
17	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	ANALOG OUTPUT		
18	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		
19	DIGITAL OUTPUT POSITIVE 0.5A	OR	ANALOG INPUT	OR	DIGITAL INPUT		
20	GND	OR	--	OR	--		
21	DIGITAL OUTPUT POSITIVE 0.5A	OR	ONE WIRE	OR	--		
22	POWER SUPPLY 5V – TRANSDUCER	OR	--	OR	--		
23	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		
24	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--		



PRODUCT CONFIGURATION

PIN	MID POSSIBLE CONFIGURATIONS - HARDWARE 3				
1	POWER SUPPLY	OR	--	OR	--
2	GND	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
7	GND	OR	--	OR	--
8	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
10	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
11	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
12	DIGITAL OUTPUT POSITIVE 0.5A	OR	POWER SUPPLY 5V - TRANSDUCER	OR	--
13	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
14	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H
15	GND	OR	--	OR	--
16	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
17	PWM OUTPUT	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	ANALOG OUTPUT
18	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
19	DIGITAL OUTPUT POSITIVE 0.5A	OR	ANALOG INPUT	OR	DIGITAL INPUT
20	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
21	DIGITAL OUTPUT POSITIVE 0.5A	OR	ONE WIRE	OR	--
22	POWER SUPPLY 5V - TRANSDUCER	OR	ANALOG INPUT	OR	DIGITAL INPUT
23	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
24	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--



MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

SPECIAL FUNCTIONS

CHARACTERISTICS

- 7 segment LED Display
- Client Logo on the panel (optional)
- Great Cost X Benefit
- Function Hourmeters
- Custom Design
- Customized Functions
- One Wire Communication (optional)

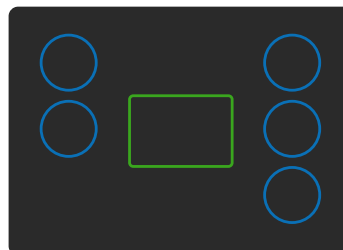
- Backlit Buttons
- Bluetooth and Wi-Fi Modules Interface
- Integrated or remote I/Os (ECU)
- USB interface through ECU (optional)
- Telematics through additional module
- Two temperature scales (°F or °C)
- Metallic or plastic housing

AVAILABLE FOR



COMPACT PANEL, POTENT AIR CONDITIONING CONTROL PANEL.

INTERFACE POSITIONS



mini

DISPLAY

LED DISPLAY
7 segment LED Display
Selectable temperature scale °F or °C
10 Languages



BUTTONS

5 BUTTON KEYBOARD

On/Off Function
2 button adjustments
Fresh Air

VENTILATION CONTROL
AIR CONDITIONING CONTROL



CONFIGURATION OPTIONS

INPUTS: Analog and Digital

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM

COMMUNICATION: ECU Module or Telematics Module

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



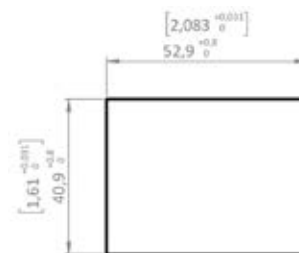
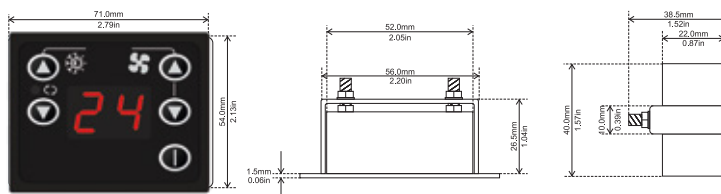
TECHNICAL DATA

OEM

HVAC + R

mini
METALLIC

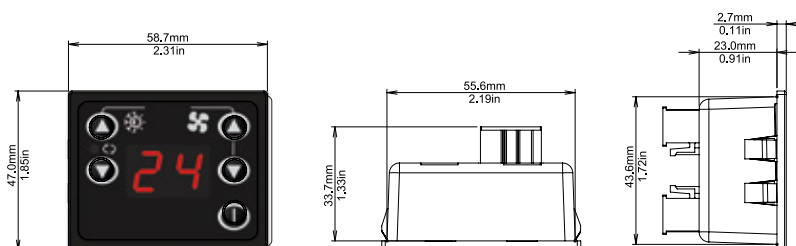
Approximated weight: 120g



SUGGESTED PANEL CUT OUT:
MINIMUM THICKNESS = 1,2 mm [0,047 in]
MAXIMUM THICKNESS = 3,5 mm [0,138 in]

mini
PLASTIC

Approximated weight: 50g



SUGGESTED PANEL CUT OUT:
MINIMUM THICKNESS = 1,2 mm [0,047 in]
MAXIMUM THICKNESS = 2,5 mm [0,098 in]

CONNECTORS



MINI-FIT 6 ways
Part Number: 39-01-2060
Terminal - PN: 39-00-0038
Manufacturer: Molex



MINI-FIT 8 ways
Part Number: 39-01-2080
Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F (Normal or extended temperature range options)
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC (Other types under request)
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	12 VDC @ 20mA / 24 VDC @ 25mA *
STANDBY CONSUMPTION	N/A

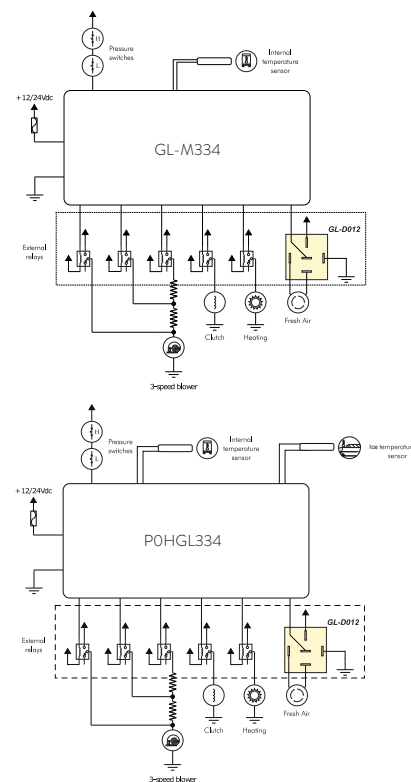
* Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

mini

7 SEGMENT DISPLAY AIR CONDITIONING CONTROL PANEL

GL-M334

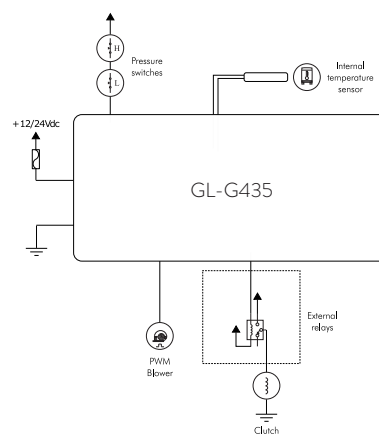
- Return sensor input
- Pressure Switch input (digital) - GL M334
- Coil temperature sensor input - GL-POHGL334
- 3 speed evaporator output
- Compressor/Condenser output
- Heating output
- Fresh Air output
- Plastic housing



AIR CONDITIONING CONTROL PANEL, 7 SEGMENT LED DISPLAY

GL-G435

- PWM Ventilation (6 speeds)
- Pressure Switch Input (digital)
- Return Temperature Sensor
- Metallic housing



Choose the best options for your system

PIN CN1	MINI POSSIBLE CONFIGURATIONS - HARDWARE 1		
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	(*)
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ONE WIRE
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
PIN CN2			
1	GND	OR	--
2	GND	OR	--
2	GND	OR	--
4	GND	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT
6	ANALOG INPUT	OR	DIGITAL INPUT
7	ANALOG INPUT	OR	DIGITAL INPUT
8	POWER SUPPLY	OR	--

(*) When using ONE WIRE communication you cannot use this output.

PIN	MINI POSSIBLE CONFIGURATIONS - HARDWARE 2		
1	GND	OR	--
2	GND	OR	--
3	GND	OR	--
4	ONE WIRE	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT
6	ANALOG INPUT	OR	DIGITAL INPUT
7	POWER SUPPLY	OR	--
8	POWER SUPPLY	OR	--

PIN CN1	MINI POSSIBLE CONFIGURATIONS - HARDWARE 3		
1	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
2	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
3	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
4	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
5	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
PIN CN2			
1	GND	OR	--
2	GND	OR	--
3	GND	OR	--
4	GND	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT
6	ANALOG INPUT	OR	DIGITAL INPUT
7	ANALOG INPUT	OR	DIGITAL INPUT
8	POWER SUPPLY	OR	--

PRODUCT CONFIGURATION

PIN CN1	MINI POSSIBLE CONFIGURATIONS - HARDWARE 4				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
PIN CN2					
1	GND	OR	--	OR	--
2	GND	OR	--	OR	--
2	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	ONE WIRE
8	POWER SUPPLY	OR	--	OR	--

PIN CN1	MINI POSSIBLE CONFIGURATIONS - HARDWARE 5				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
PIN CN2					
1	GND	OR	--	OR	--
2	GND	OR	--	OR	--
2	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	ONE WIRE
8	POWER SUPPLY	OR	--	OR	--

EDGE

OEM

HVAC + R

CABIN / MUX



MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

CABIN CONTROL

MULTIPLEX

SPECIAL FUNCTIONS

PRE-HEATER TIMER

CHARACTERISTICS

- Available as HMI
Human Machine Interface (CAN Bus)
- Customizable Design
- Customizable Functions
- Multifunction
- One Wire Communication (optional)
- Function Hourmeters
- Customer Logo on panel
- Integrated or remote I/Os (ECU)
- USB interface through ECU (optional)
- Telematics through additional module
- Bluetooth and Wi-Fi Modules Interface
- Two temperature scales
- Automotive connector
- Rubber buttons keyboard
- DIN Radio Size

CONFIGURATION OPTIONS

INPUTS: Analogs and Digitals.

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM.

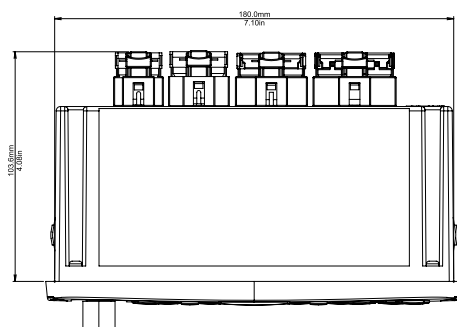
COMMUNICATION: ECU Module or Telematics Module.

AVAILABLE FOR

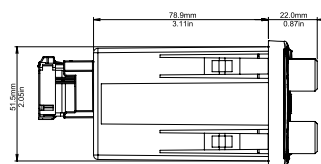




Approximated weight: 250g



PANEL CUTOUT:
1 DIN 75490 RADIO SIZE



CONNECTORS



MCP 9 ways
Part Number: 8-968971-1
Terminal - PN: 1-968851-1
Manufacturer: Tyco Electronics



MCP 12 ways
Part Number: 8-968972-1
Terminal - PN: 1-968851-1
Manufacturer: Tyco Electronics



MCP 15 ways
Part Number: 8-968973-1
Terminal - PN: 1-968851-1
Manufacturer: Tyco Electronics



MCP 18 ways
Part Number: 8-968974-1
Terminal - PN: 1-968851-1
Manufacturer: Tyco Electronics

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500 mA
OUTPUT SHORT-CIRCUIT	Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F (Extended or normal temperature options)
STORAGE TEMPERATURE	-40°C to + 85°C / -40°F to + 185°F
TEMPERATURE SENSOR	NTC - For other sensor types please consult with our technical team
PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	120mA @ 12VDC / 70mA @ 24VDC **
STANDBY CONSUMPTION	60mA @ 12VDC / 40mA @ 24VDC **

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI





2 KNOBS*



3 KNOBS*

Choose the best option for your system

PIN CN1	EDGE 2 E 3 KNOBS POSSIBLE CONFIGURATIONS - HARDWARE 1				
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	GND	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
7	POWER SUPPLY	OR	--	OR	--
8	GND	OR	--	OR	--
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
10	VBAT - RTC	OR	--	OR	--
11	ONE WIRE	OR	DIGITAL INPUT	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
PIN CN2					
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H4
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H4
6	GND	OR	--	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2
8	PWM PUSH PULL	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
12	GND	OR	--	OR	--
13	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H3
14	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
16	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H3
17	POWER SUPPLY 5V - TRANSDUCER	OR	--	OR	--
18	GND	OR	--	OR	--



PRODUCT CONFIGURATION



Choose the best option for your system

PIN CN1	EDGE BUTTONS CAN POSSIBLE CONFIGURATIONS- HARDWARE 2						
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
3	CAN H	OR	--	OR	--	OR	--
4	GND	OR	--	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	CAN L	OR	--	OR	--	OR	--
7	VBAT - RTC	OR	--	OR	--	OR	--
8	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
PIN CN2							
1	POWER SUPPLY	OR	--	OR	--	OR	--
2	GND	OR	--	OR	--	OR	--
3	ANALOG OUTPUT 50mA	OR	--	OR	--	OR	--
4	POWER SUPPLY	OR	--	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	GND	OR	--	OR	--	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--	OR	--
9	ANALOG OUTPUT 50mA	OR	--	OR	--	OR	--
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	BRIDGE H1
11	DIGITAL OUTPUT POSITIVE 0.5A	OR	--	OR	--	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--	OR	--
13	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	BRIDGE H1
14	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
15	ANALOG OUTPUT 50mA	OR	--	OR	--	OR	--

PIN CN1	EDGE BUTTONS - USB POSSIBLE CONFIGURATIONS - HARDWARE 3		
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	ONE WIRE
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT
8	ANALOG INPUT	OR	DIGITAL INPUT
9	ANALOG INPUT	OR	DIGITAL INPUT
PIN CN2			
1	ANALOG INPUT	OR	DIGITAL INPUT
2	GND	OR	--
3	GND	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT
5	GND	OR	--
6	GND	OR	--
7	CAN H	OR	--
8	POWER SUPPLY	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT
10	CAN H	OR	--
11	POWER SUPPLY 5V - TRANSDUCER	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT



MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

CABIN CONTROL

MULTIPLEX

SPECIAL FUNCTIONS

PRE-HEATER TIMER

CHARACTERISTICS

- Available as HMI Human Machine Interface (CAN Bus)
- Customizable Design
- Customizable Functions
- Multifunction
- One Wire Communication (optional)
- Function Hourmeters
- Customer Logo on panel
- Integrated or remote I/Os (ECU)
- USB interface through ECU (optional)
- Telematics through additional module
- Bluetooth and Wi-Fi Modules Interface
- Two temperature scales
- Automotive connector
- Rubber buttons keyboard

CONFIGURATION OPTIONS

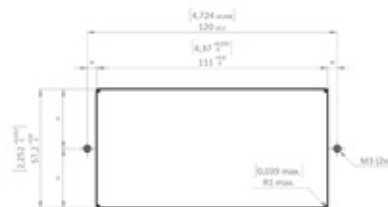
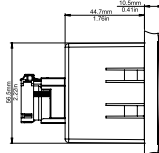
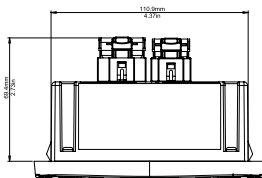
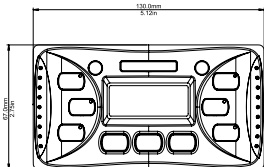
INPUTS: Analogs and Digitals.

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM.

COMMUNICATION: ECU Module or Telematics Module.

AVAILABLE FOR





Approximated weight: 175g

CONNECTORS



MCP 12 ways
Part Number: 8-968972-1
Terminal - PN: 1-968851-1
Manufacturer: Tyco Electronics



MINI-FIT 8 ways
Part Number: 39-01-2080
Terminal - PN: 39-00-0038
Manufacturer: Molex



MINI-FIT 12 ways
Part Number: 39-01-2120
Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	9 VDC to 30 VDC / 10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500 mA
OUTPUT SHORT-CIRCUIT	Protected **
REVERSE POLARITY	Protected **
OPERATING TEMPERATURE RANGE	-40°C to +85°C
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC - For other sensor types please consult with our technical team
PROTECTION DEGREE	IP 30
COMMUNICATION	One Wire / CAN Bus / RS485
MAXIMUM CURRENT CONSUMPTION	120mA @ 12 VDC / 70mA @ 24 VDC ***
STANDBY CONSUMPTION	60mA @ 12 VDC / 40mA @ 24 VDC ***

* Concept product / Concept product ** According to product configuration. *** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI



PRODUCT CONFIGURATION

Choose the best option for your system

PIN CN1	EDGE COMPACT POSSIBLE CONFIGURATIONS - HARDWARE 1				
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	GND	OR	--	OR	--
3	GND	OR	--	OR	--
4	CAN H	OR	--	OR	--
5	CAN L	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
7	ONE WIRE	OR	--	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
PIN CN2					
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	GND	OR	--	OR	--
3	DIGITAL INPUT	OR	--	OR	--
4	DIGITAL INPUT	OR	--	OR	--
5	GND	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
7	VBAT RTC	OR	--	OR	--
8	POWER SUPPLY	OR	ANALOG INPUT	OR	--
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	ONE WIRE
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--

PIN CN1	EDGE COMPACT - CONNECTOR MINI FIT POSSIBLE CONFIGURATIONS - HARDWARE 2				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H1
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H2
4	POWER SUPPLY	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H1
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	BRIDGE H2
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT
8	GND	OR	--	OR	--
PIN CN2					
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	ANALOG INPUT	OR	--	OR	--
7	GND	OR	--	OR	--
8	GND	OR	--	OR	--
9	GND	OR	DIGITAL INPUT	OR	--
10	GND	OR	--	OR	--
11	GND	OR	--	OR	--
12	DIGITAL INPUT	OR	--	OR	--

PIN CN1	EDGE COMPACT - USB POSSIBLE CONFIGURATIONS - HARDWARE 3		
1	PWM PUSH PULL	OR	--
2	PWM PUSH PULL	OR	--
3	PWM PUSH PULL	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT
8	ANALOG INPUT	OR	DIGITAL INPUT
9	ANALOG INPUT	OR	DIGITAL INPUT
PIN CN2			
1	ANALOG INPUT	OR	DIGITAL INPUT
2	GND	OR	--
3	GND	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT
5	GND	OR	--
6	GND	OR	--
7	CAN H	OR	RS-485 D+
8	POWER SUPPLY	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT
10	CAN H	OR	RS-485 D-
11	POWER SUPPLY 5V - TRANSDUCER	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT

SLIM

OEM

HVAC + R



MAIN FUNCTIONS

REFRIGERATION

CLIMATIZATION

SPECIAL FUNCTIONS

CHARACTERISTICS

- 7 segment LED Display
- Client Logo on the panel (optional)
- Great Cost X Benefit
- Function Hourmeters
- Custom Design
- Customized Functions
- Multifunction

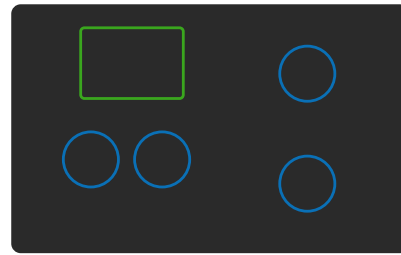
- Backlit Buttons
- Two temperature scales (°F or °C)
- Bluetooth and Wi-Fi Modules Interface
- Integrated or remote I/Os (ECU)
- Telematics through additional module
- One Wire Communication (optional)
- USB interface through ECU (optional)

AVAILABLE FOR



PANEL WITH DISCREET AND ELEGANT DESIGN.
INTUITIVE AND CUSTOMIZABLE INTERFACE.

INTERFACE POSITIONS



SLIM

DISPLAY

DIGITAL DISPLAY
7 segment LED Display
2 Digits
Selectable temperature scale °F or °C



BUTTONS

4 BUTTONS

Backlit Buttons
2 Button adjustments

VENTILATION CONTROL
High, Medium, Low

AC CONTROL
Heating and Cooling Functions



CONFIGURATION OPTIONS

INPUTS: Analog and Digital

OUTPUTS: Negative Digitals or through external ECU: Analogs, Positive Digitals, Bridge (flap motor) and PWM

COMMUNICATION: ECU Module or Telematics Module

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER

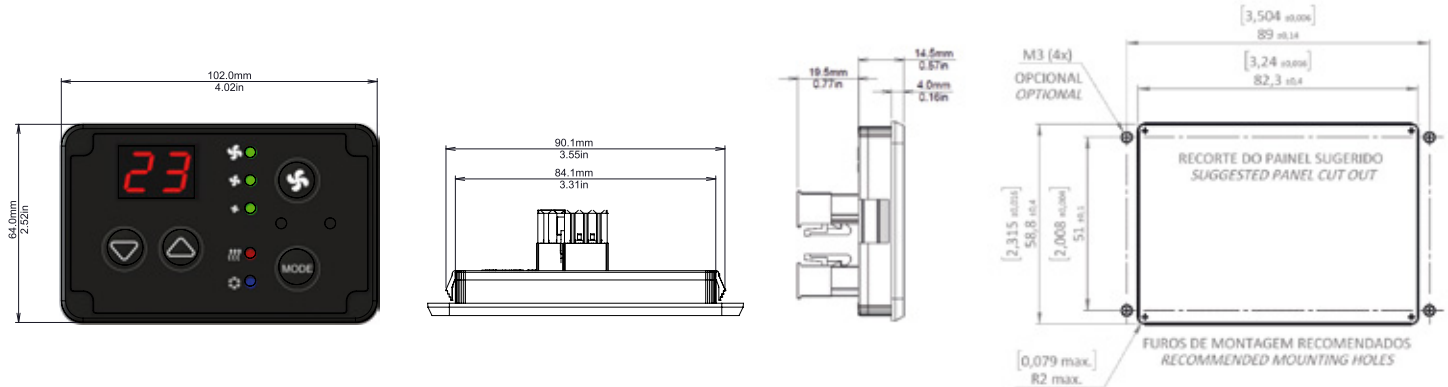


CUSTOMIZABLE
INTERFACES



TECHNICAL DATA

SLIM



Approximated weight: 115g

CONNECTORS



MINI-FIT 6 ways
Part Number: 39-01-2060
Terminal - PN: 39-00-0038
Manufacturer: Molex



MINI-FIT 8 ways
Part Number: 39-01-2080
Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA

	TECHNICAL DATA
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500mA
OUTPUT SHORT-CIRCUIT	Protected
REVERSE POLARITY	Protected
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F (Normal or extended temperature range options)
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC (Other types under request)
FRONTAL PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	12 VDC @ 50mA / 24 VDC @ 90mA *
STANDBY CONSUMPTION	12 VDC @ 35mA / 24 VDC @ 50mA *

* Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.



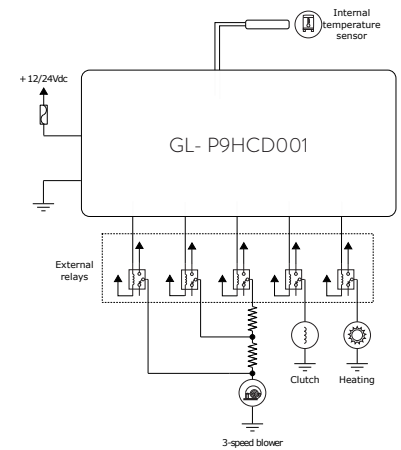
OEM

HVAC + R

CLIMATIZATION AND REFRIGERATION CONTROLLER

GL-P9HGL002

- 7 segment LED Display
- Customer Logo on the Panel (optional)



Choose the best options for your system

PIN CN1	SLIM POSSIBLE CONFIGURATIONS - HARDWARE 1				
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--
PIN CN2					
1	GND	OR	--	OR	--
2	GND	OR	--	OR	--
2	GND	OR	--	OR	--
4	GND	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	ONE WIRE
8	POWER SUPPLY	OR	--	OR	--

PIN CN1	SLIM POSSIBLE CONFIGURATIONS - HARDWARE 2		
1	ANALOG INPUT	OR	DIGITAL INPUT
2	GND	OR	--
PIN CN2			
1	POWER SUPPLY	OR	--
2	ONE WIRE	OR	--
2	GND	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--

The background is a dark blue gradient. It features a large, stylized, glowing white 'G' shape on the left side. Scattered across the background are various white geometric shapes, including rectangles and lines, some of which are connected by small white dots, resembling a circuit board or a network diagram. A solid orange vertical bar is positioned on the right side of the image.

MODULES

TELEMATICS MODULE

Tested and Certified

HVAC + R

STANDARD

CABIN / MUX



Certified

Nº 00965-21-13681



MAIN FUNCTIONS

DATA LOGGER

FLEET TRACKING

REMOTE CONTROL

CONNECTIVITY

DIAGNOSTICS

SERVICE ALERTS

MAINTENANCE

CONFIGURATIONS

CHARACTERISTICS

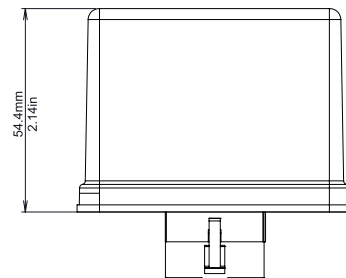
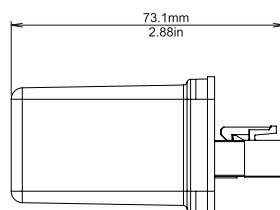
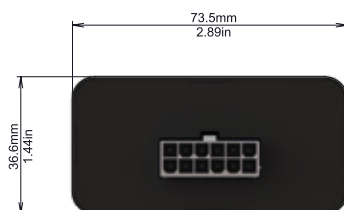
- Preventive maintenance alerts with customized individual hourmeters
- **Data Logging:** Records faults with date and time stamp - geolocation also possible
- **Remote Diagnostics:** View faults, status and events in real time from your smartphone, tablet or PC
- **Increased operational efficiency:** Remote system configuration - local configuration lock option
- Real-time clock
- CAN Bus (2 ports) - SAE J1939
- One Wire
- 2 to 8GB flash memory for Data Logger

AVAILABLE FOR





Approximated weight: 100g



CONNECTORS



MINI-FIT 12 ways
Part Number: 39-01-2120
Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	N/A
OUTPUT SHORT-CIRCUIT	N/A
REVERSE POLARITY	YES
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	N/A
PROTECTION DEGREE	IP 30
WIRELESS COMMUNICATION	Bluetooth and Wi-Fi
WIRED COMMUNICATION	One Wire / CAN Bus
MAXIMUM CURRENT CONSUMPTION	60mA @ 12VDC / 40mA @ 24VDC *
STANDBY CONSUMPTION	N/A *

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

CONFIGURATION OPTIONS

INPUTS: Two inputs (Analog and/or Digitals)



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



DATA
LOGGER



ECU – ELECTRONIC CONTROL UNITS

HVAC + R

STANDARD

CABIN / MUX

PREMIUM



WIDE



FLEX



COMPACT



MAIN FUNCTIONS

The Electronic Control Unit (ECU) modules are systems that interface with the application's I/Os (inputs and outputs). Globus ECUs present high level of reliability and add modularity and safety, replacing relays and fuses with 100% electronic components.

They interact with human-machine interfaces, such as panels, displays, sensors, and other peripherals, depending on the client's application needs.

CHARACTERISTICS

- Customizable software
- Configurable I/Os
- LIN Interface
- RS-485 Interface
- Data Logger
- CAN Bus Interface
- One Wire interface
- USB Interface
(Not recommended for new projects)

CONFIGURATION OPTIONS

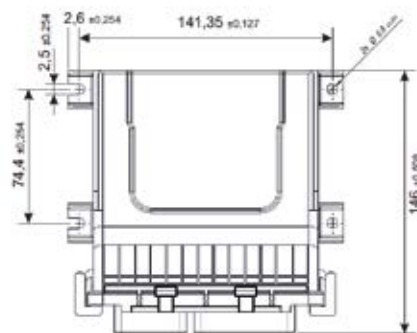
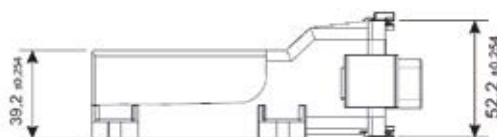
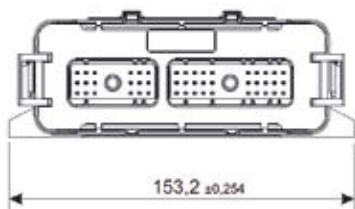
INPUT: Analogs and Digitals

OUTPUT: Analog, Digital Positive, Digital Negative, PWM and Bridge H

AVAILABLE ENERGY



ECU PREMIUM



Approximated weight: 490g

CONNECTORS



MODICE CINCH 18 ways
Part Number: 581-01-18-023
Terminal - PN: 425-00-00-872
Manufacturer: Modice Cinch



MODICE CINCH 30 ways
Part Number: 581-01-18-029
Cavity Plug Seal - PN: 581-00-00-011
Manufacturer: Modice Cinch

TECHNICAL DATA	
OPERATING VOLTAGE	24 VDC
OPERATING VOLTAGE RANGE	18 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
OUTPUT MAXIMUM CURRENT	500mA
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE RANGE	-40°C to +85°C / -40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	NTC
PROTECTION DEGREE	IP 68K
COMMUNICATION	CAN Bus / LIN
MAXIMUM CURRENT CONSUMPTION	17mA **
STANDBY CONSUMPTION	**

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI¹



BLUETOOTH¹



CELL PHONE
INTERFACE²



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER¹



ECU

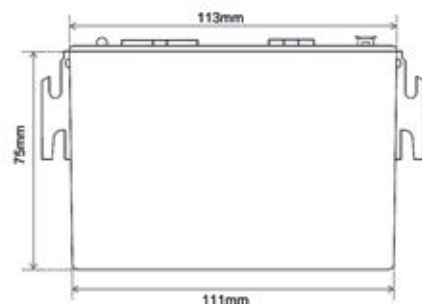
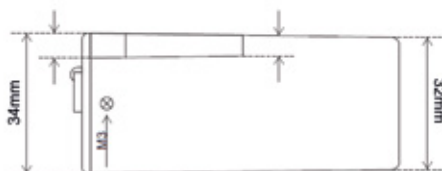
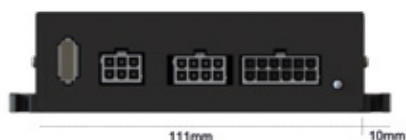
PREMIUM

PRODUCT CONFIGURATIONS

Choose the best options for your system

PIN CN1	ECU PREMIUM	POSSIBLE CONFIGURATIONS	HARDWARE 1
1	DIGITAL INPUT	OR	--
2	DIGITAL INPUT	OR	--
3	DIGITAL INPUT	OR	--
4	DIGITAL INPUT	OR	--
5	DIGITAL INPUT	OR	--
6	DIGITAL INPUT	OR	--
7	PWM OUTPUT	OR	--
8	DIGITAL INPUT	OR	DIGITAL OUTPUT POSITIVE 0.5A
9	PWM OUTPUT	OR	--
10	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
11	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
12	PWM OUTPUT	OR	--
13	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
14	GND	OR	--
15	DIGITAL OUTPUT POSITIVE 0.5A 12V	OR	--
16	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
17	GND	OR	--
18	DIGITAL OUTPUT POSITIVE 0.5A 12V	OR	--
PIN CN2			
1	LIN 2	OR	--
2	CAN2 L	OR	--
3	CAN2 H	OR	--
4	LIN 1	OR	--
5	CAN1 L	OR	--
6	CAN1 H	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT
8	TRANSDUCER POWER SUPPLY GND	OR	--
9	TRANSDUCER POWER SUPPLY 5V	OR	--
10	GND	OR	--
11	GND	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT
13	ANALOG INPUT	OR	DIGITAL INPUT
14	ANALOG INPUT	OR	DIGITAL INPUT
15	ANALOG INPUT	OR	DIGITAL INPUT
16	ANALOG INPUT	OR	DIGITAL INPUT
17	ANALOG INPUT	OR	DIGITAL INPUT
18	ANALOG INPUT	OR	DIGITAL INPUT
19	GND	OR	--
20	ANALOG INPUT	OR	--
21	GND	OR	--
22	ANALOG INPUT	OR	DIGITAL INPUT
23	DIGITAL INPUT	OR	--
24	ANALOG INPUT	OR	DIGITAL INPUT
25	GND	OR	--
26	DIGITAL INPUT	OR	--
27	GND	OR	--
28	POWER SUPPLY +VBAT	OR	--
29	POWER SUPPLY -VBAT	OR	--
30	POWER SUPPLY 12V OUT	OR	--

ECU FLEX



Approximated weight: 130g

CONNECTORS



MINI-FIT 6 ways
Part Number: 4202P0612T1



MINI-FIT 8 ways
Part Number: 39-01-2080



MINI-FIT 10 ways
Part Number: 39-01-2100



MINI-FIT 12 ways
Part Number: 39-01-2120



MINI-FIT 16 ways
Part Number: 39-01-2160

Terminal - PN: 39-00-0038
Manufacturer: Molex

TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
OUTPUT MAXIMUM CURRENT	500mA
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE RANGE	-40°C to +85° / - 40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85° / - 40°F to +185°F
TEMPERATURE SENSOR	NTC
PROTECTION DEGREE	IP 30
COMMUNICATION	CAN Bus / One Wire / RS-485
MAXIMUM CURRENT CONSUMPTION	40mA @ 12 VDC / 60mA @ 24 VDC **
STANDBY CONSUMPTION	**

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI¹



BLUETOOTH¹



CELL PHONE
INTERFACE²



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER¹



ECU

FLEX

PRODUCT CONFIGURATIONS

Choose the best options for your system

PIN CN1	ECU FLEX POSSIBLE CONFIGURATIONS HARDWARE 1				
1	CAN L	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1
4	CAN H	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
PIN CN2					
1	ANALOG OUTPUT	OR	--	OR	--
2	GND ANALOG OUTPUT	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2
4	--	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
6	ANALOG OUTPUT	OR	--	OR	--
7	GND ANALOG OUTPUT	OR	--	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2
9	TRANSDUCER POWER SUPPLY	OR	--	OR	--
10	GND	OR	--	OR	--
PIN CN3					
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	GND	OR	--	OR	--
3	DIGITAL INPUT	OR	--	OR	--
4	DIGITAL INPUT	OR	--	OR	--
5	ONE WIRE	OR	--	OR	--
6	GND	OR	--	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
8	GND	OR	--	OR	--
9	DIGITAL INPUT	OR	--	OR	--
10	DIGITAL INPUT	OR	--	OR	--
11	POWER SUPPLY	OR	--	OR	--
12	POWER SUPPLY	OR	--	OR	--

ECU

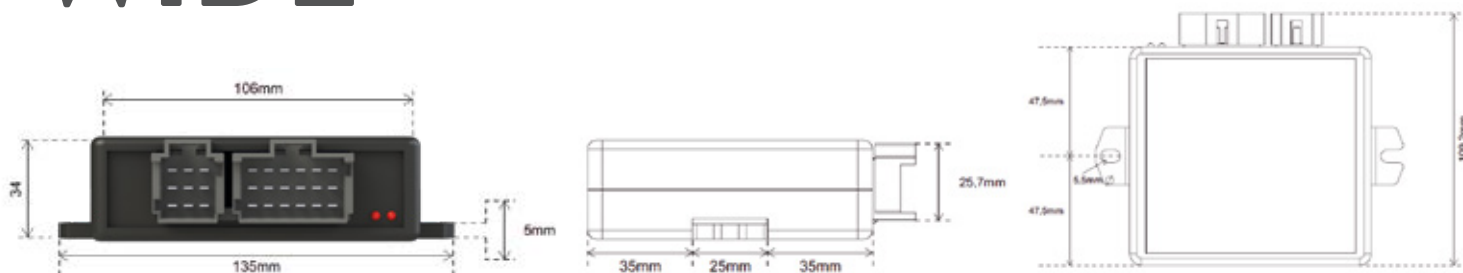
FLEX

PRODUCT CONFIGURATIONS

PIN CN1	ECU FLEX POSSIBLE CONFIGURATIONS HARDWARE 2						
1	TRANSDUCER POWER SUPPLY 5V	OR	--	OR	--	OR	--
2	POWER SUPPLY	OR	--	OR	--	OR	--
3	CAN L	OR	--	OR	--	OR	--
4	CAN H	OR	--	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	RS-485 D+	OR	--	OR	--	OR	--
7	RS-485 D-	OR	--	OR	--	OR	--
8	ONE WIRE	OR	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
PIN CN2							
1	GND	OR	--	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
7	GND	OR	--	OR	--	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	PWM OUTPUT
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H2	OR	PWM OUTPUT
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
12	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT	OR	--
PIN CN3							
1	ANALOG OUTPUT – 50MA	OR	--	OR	--	OR	--
2	GND	OR	--	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
5	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--
9	ANALOG OUTPUT – 50MA	OR	--	OR	--	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
11	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
12	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
13	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
14	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
15	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
16	GND	OR	--	OR	--	OR	--



ECU WIDE



Approximated weight: 180g

CONNECTORS



MCP AMP 9 ways
Part Number: 8 - 968971 - 1



MCP AMP 18 ways
Part Number: 8 - 968974 - 1

TERMINAL - PN: 1-968851-1
Manufacturer: AMP

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
OUTPUT MAXIMUM CURRENT	10A / 500mA / 5A
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE RANGE	-40°C to +85° / - 40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85° / - 40°F to +185°F
TEMPERATURE SENSOR	NTC
PROTECTION DEGREE	IP 30
COMMUNICATION	CAN Bus / One Wire
MAXIMUM CURRENT CONSUMPTION	36mA @ 12 VDC / 41mA @ 24 VDC **
STANDBY CONSUMPTION	**

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI¹



BLUETOOTH¹



CELL PHONE
INTERFACE²



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER¹



ECU

WIDE

PRODUCT CONFIGURATIONS

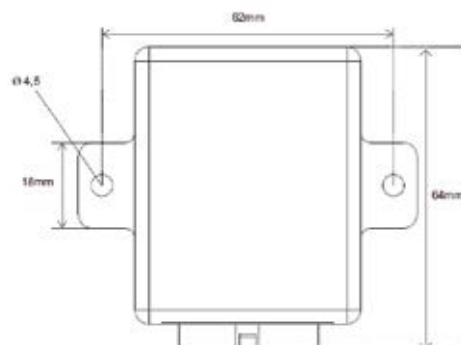
Choose the best options for your system

PIN CN1	ECU WIDE POSSIBLE CONFIGURATIONS HARDWARE 1		
1	ANALOG INPUT	OR	DIGITAL INPUT
2	GND	OR	--
3	DIGITAL INPUT	OR	--
4	ANALOG INPUT	OR	DIGITAL INPUT
5	GND	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT
7	ANALOG INPUT	OR	DIGITAL INPUT
8	GND	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT
PIN CN2			
1	POWER SUPPLY	OR	--
2	GND	OR	--
3	POWER SUPPLY	OR	--
4	POWER SUPPLY	OR	--
5	GND	OR	--
6	POWER SUPPLY	OR	--
7	DIGITAL OUTPUT POSITIVE 10A	OR	--
8	* THE SAME OUTPUT OF PIN 7	OR	--
9	--	OR	--
10	DIGITAL OUTPUT POSITIVE 10A	OR	PWM OUTPUT 5A
11	DIGITAL OUTPUT POSITIVE 0,5A	OR	--
12	--	OR	--
13	DIGITAL OUTPUT POSITIVE 5A	OR	PWM OUTPUT 5A
14	DIGITAL OUTPUT POSITIVE 0,5A	OR	--
15	CAN H	OR	--
16	DIGITAL OUTPUT POSITIVE 5A	OR	--
17	DIGITAL OUTPUT POSITIVE 5A	OR	--
18	CAN L	OR	--

PIN CN1	ECU WIDE POSSIBLE CONFIGURATIONS HARDWARE 2						
1	POWER SUPPLY	OR	--	OR	--	OR	--
2	GND	OR	--	OR	--	OR	--
3	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
4	DIGITAL INPUT	OR	--	OR	--	OR	--
5	GND	OR	--	OR	--	OR	--
6	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
7	GND	OR	--	OR	--	OR	--
8	GND	OR	--	OR	--	OR	--
9	ANALOG INPUT	OR	DIGITAL INPUT	OR	--	OR	--
PIN CN2							
1	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
2	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	PWM OUTPUT	OR	--	OR	--
4	DIGITAL OUTPUT POSITIVE 3A	OR	--	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--	OR	--
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--	OR	--
7	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H1	OR	--
8	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 3A	OR	BRIDGE H2
9	TRANSDUCER POWER SUPPLY	OR	--	OR	--	OR	--
10	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 3A	OR	BRIDGE H1
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 3A	OR	BRIDGE H2
12	DIGITAL INPUT	OR	ANALOG INPUT	OR	--	OR	--
13	CAN H	OR	ONE WIRE	OR	--	OR	--
14	DIGITAL INPUT	OR	ANALOG INPUT	OR	--	OR	--
15	DIGITAL INPUT	OR	ANALOG INPUT	OR	--	OR	--
16	CAN L	OR	--	OR	--	OR	--
17	DIGITAL INPUT	OR	ANALOG INPUT	OR	--	OR	--
18	GND	OR	--	OR	--	OR	--



ECU COMPACT



Approximated weight: 50g

CONNECTORS



MINI-FIT 12 ways
Part Number: 39-01-2120

TERMINAL - PN: 39-00-0038
Manufacturer: MOLEX

TECHNICAL DATA

OPERATING VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
OUTPUT MAXIMUM CURRENT	500mA
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE RANGE	-40°C to +85° / - 40°F to +185°F
STORAGE TEMPERATURE	-40°C to +85° / - 40°F to +185°F
TEMPERATURE SENSOR	NTC
PROTECTION DEGREE	IP 30
COMMUNICATION	CAN Bus / One Wire
MAXIMUM CURRENT CONSUMPTION	15mA @ 12 VDC / 30mA @ 24 VDC **
STANDBY CONSUMPTION	**

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI ¹



BLUETOOTH ¹



CELL PHONE
INTERFACE ²



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER ¹



ECU

COMPACT

PRODUCT
CONFIGURATIONS

Choose the best options for your system

PIN	ECU COMPACT POSSIBLE CONFIGURATIONS HARDWARE 1				
1	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
2	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
3	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
4	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--	OR	--
5	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H
6	DIGITAL OUTPUT NEGATIVE 0.5A	OR	DIGITAL OUTPUT POSITIVE 0.5A	OR	BRIDGE H
7	ANALOG INPUT	OR	DIGITAL INPUT	OR	--
8	ANALOG INPUT	OR	DIGITAL INPUT	OR	DIGITAL OUTPUT POSITIVE 0.5A
9	DIGITAL OUTPUT NEGATIVE 0.5A	OR	GND (SENSOR)	OR	--
10	ONE WIRE	OR	--	OR	--
11	GND	OR	--	OR	--
12	POWER SUPPLY	OR	--	OR	--

PIN	ECU COMPACT POSSIBLE CONFIGURATIONS HARDWARE 2		
1	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
2	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
3	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
4	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
5	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
7	POWER SUPPLY	OR	--
8	ANALOG INPUT	OR	DIGITAL INPUT
9	ANALOG INPUT	OR	DIGITAL INPUT
10	CAN H	OR	--
11	CAN L	OR	--
12	GND	OR	--

PIN	ECU COMPACT POSSIBLE CONFIGURATIONS HARDWARE 3		
1	ANALOG INPUT	OR	DIGITAL INPUT
2	--	OR	--
3	--	OR	--
4	DIGITAL INPUT	OR	--
5	--	OR	--
6	POWER SUPPLY	OR	--
7	ANALOG INPUT	OR	DIGITAL INPUT
8	ANALOG OUTPUT	OR	--
9	ANALOG OUTPUT	OR	--
10	ANALOG INPUT	OR	DIGITAL INPUT
11	DIGITAL OUTPUT NEGATIVE 0.5A	OR	--
12	GND	OR	--

PIN	ECU COMPACT POSSIBLE CONFIGURATIONS HARDWARE 4		
1	CAN H	OR	--
2	CAN L	OR	--
3	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
4	DIGITAL OUTPUT POSITIVE 0.5A	OR	--
5	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT 0.5A
6	DIGITAL OUTPUT POSITIVE 0.5A	OR	PWM OUTPUT 0.5A
7	ANALOG INPUT	OR	DIGITAL INPUT
8	ANALOG INPUT	OR	DIGITAL INPUT
9	ANALOG INPUT	OR	DIGITAL INPUT
10	ANALOG INPUT	OR	DIGITAL INPUT
11	GND	OR	--
12	POWER SUPPLY	OR	--



PWM | PULSE WIDTH MODULATION

HVAC + R

STANDARD



MAIN FUNCTIONS

ENGINE SPEED CONTROL

HIGH VOLTAGES

HIGH RELIABILITY

CHARACTERISTICS

- Metal or Plastic housing
- Automotive connector
- Resinated product providing high IP rating
- One Wire Interface

CONFIGURATION OPTIONS

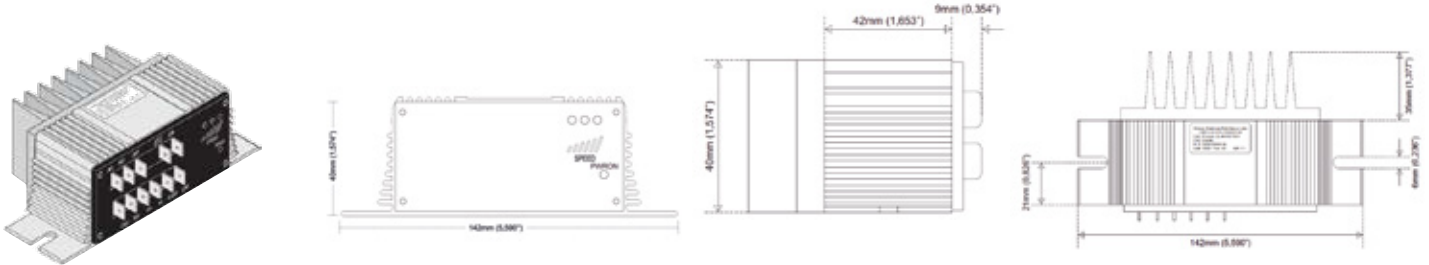
INPUTS: Analogs and Digitals

OUTPUTS: Analogs, Positive Digitals, Negative Digitals and PWM

AVAILABLE FOR



PWM MODULE ALUMINUM



Approximated weight: 400g

CONNECTORS



POSITIVE LOCK 1 way
Part Number: 154719-1
Terminal – PN: 880645-6
Manufacturer: AMP

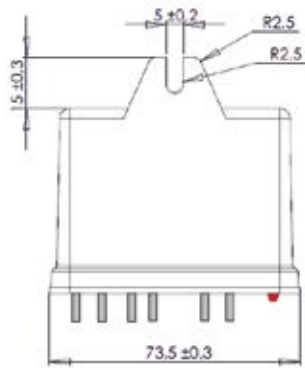
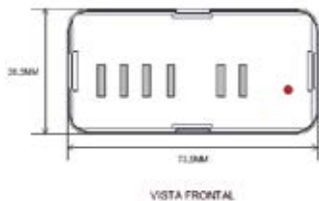
TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
VOLTAGE RANGE	11 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	30A
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE	-40°C to +85°
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	N/A
PROTECTION DEGREE	IP 65
COMMUNICATION	One Wire
MAXIMUM CURRENT CONSUMPTION	40mA @ 12VDC / 60mA @ 24VDC
STANDBY CONSUMPTION	N/A

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

PWM MODULE

PLASTIC

GL-M1HGL002



Approximated weight: 200g

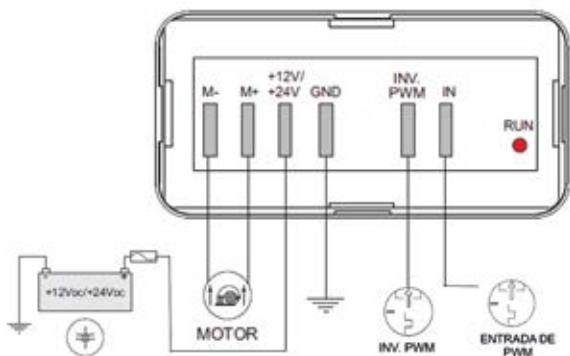
CONNECTORS



POSITIVE LOCK 1 way
Part Number: 154719-1
Terminal – PN: 880645-6
Manufacturer: AMP

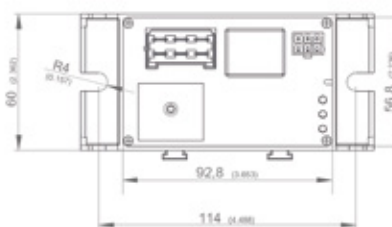
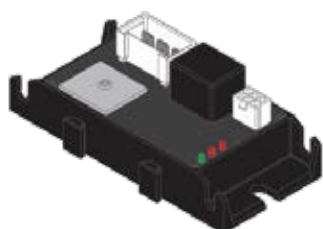
TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC / 24 VDC
VOLTAGE RANGE	11 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	15A
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE	-40°C to +85°
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	N/A
PROTECTION DEGREE	IP 54
COMMUNICATION	N/A
MAXIMUM CURRENT CONSUMPTION	40mA @ 12VDC / 60mA @ 24VDC
STANDBY CONSUMPTION	N/A

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.



PWM MODULE

PLASTIC



Approximated weight: 160g

CONNECTORS



FASTON 6 ways
Part Number: 0-280314-0
Terminal PN: 880645-6
Manufacturer: AMP

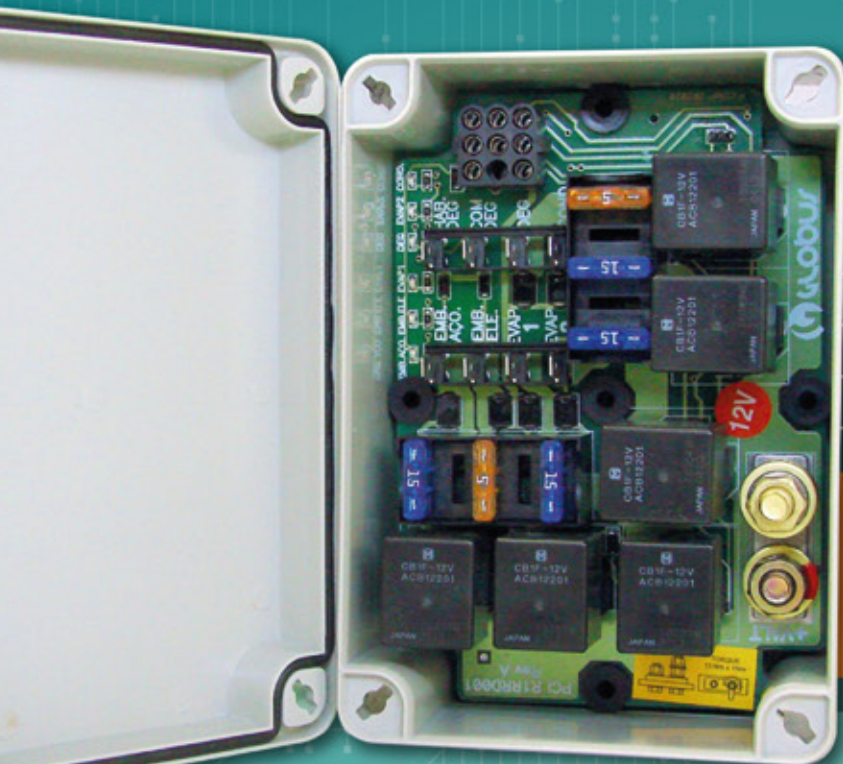
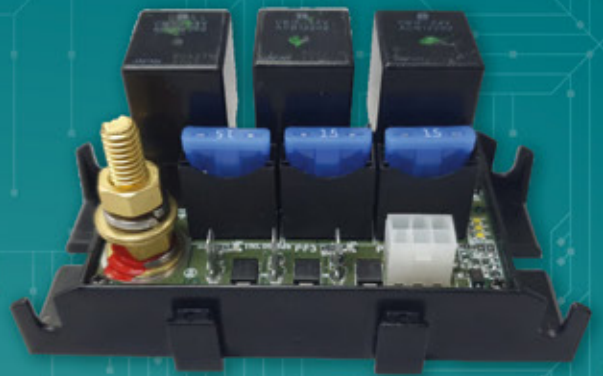
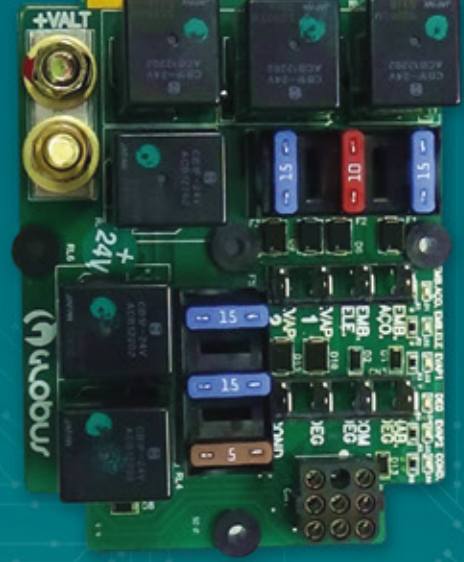
TECHNICAL DATA	
OPERATING VOLTAGE	12 VDC
VOLTAGE RANGE	10 VDC to 15 VDC
MAXIMUM VOLTAGE	17 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	15A
OUTPUT SHORT-CIRCUIT	Protected*
REVERSE POLARITY	Protected*
OPERATING TEMPERATURE	-40°C to +85°
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
TEMPERATURE SENSOR	N/A
PROTECTION DEGREE	IP 54
COMMUNICATION	One Wire
MAXIMUM CURRENT CONSUMPTION	110mA @ 12VDC
STANDBY CONSUMPTION	1,7mA

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

MORE THAN 500 RELAY BOARD MODELS DEVELOPED BY



Globus
Electronics



- CUSTOMIZABLE
- EASY MAINTENANCE
- DIAGNOSTICS
- HIGH RELIABILITY
- FUNCTION IDENTIFICATION
- SIMPLIFIED INSTALLATION

CHOOSE A DEVELOPED
RELAY BOARD OR REQUEST
DEVELOPMENT ACCORDING
TO YOUR NEEDS.





BOARDS

EZ POWER

HVAC + R

STANDARD



MAIN FUNCTIONS

ACTIVATES MOTORS, COMPRESSORS,
FANS, SOLENOID, RESISTANCES

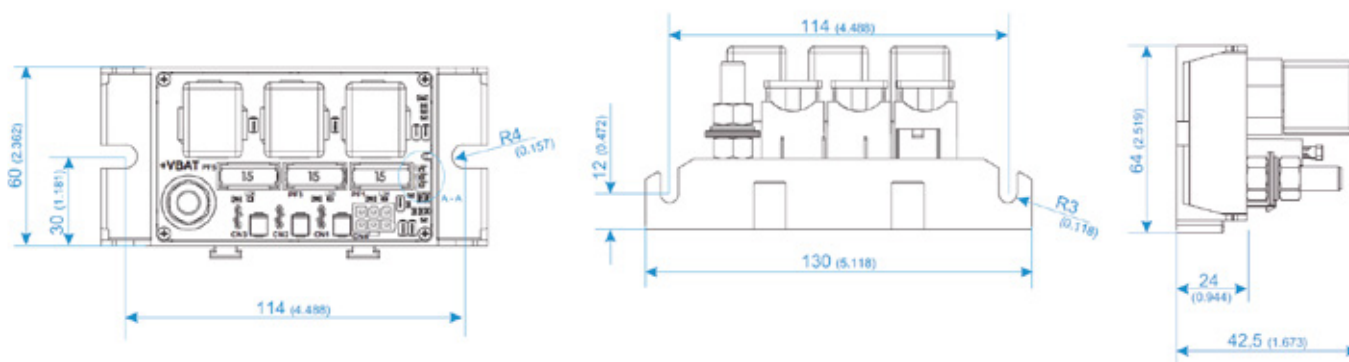
CHARACTERISTICS

- Innovative design
- Designed for heavy-duty applications
- Individual commands
- Automotive connector
- Modular (can be plugged in, reaching the number of relays the customer needs)
- Excellent cost-benefit ratio
- Compact size, simplifying installation

AVAILABLE FOR



TECHNICAL DATA



Approximated weight: 280g

CONNECTORS



MINI-FIT 6 ways
Part Number: 3901-2060
Terminal – PN: 3900-0038
Manufacturer: MOLEX



POSITIVE LOCK 1 way
Part Number: 154719-1
Terminal – PN: 880645-6
Manufacturer: AMP



AUTOMOTIVE RELAY
PANASONIC 12VDC / 40A
Part Number: CB1F-12V
BLADE FUSE
Manufacturer: LITTELFUSE
PN: 0287015.PXCN

TECHNICAL DATA		
OPERATING VOLTAGE	12 VDC	24 VDC
OPERATING VOLTAGE RANGE	10 VDC to 15 VDC	18 VDC to 30 VDC
MAXIMUM VOLTAGE	17 VDC during 5 min	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	15A	15A
OUTPUT SHORT-CIRCUIT	Protected	Protected
REVERSE POLARITY	Not Protected	Not Protected
OPERATING TEMPERATURE RANGE	-40°C to +85°C	-40°C to +85°C
STORAGE TEMPERATURE	-40°C / + 125°C	-40°C / + 125°C
TEMPERATURE SENSOR	N/A	N/A
PROTECTION DEGREE	N/A	N/A
MAXIMUM CURRENT CONSUMPTION	N/A	N/A
STANDBY CONSUMPTION	N/A	N/A

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

FUNCTIONS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI



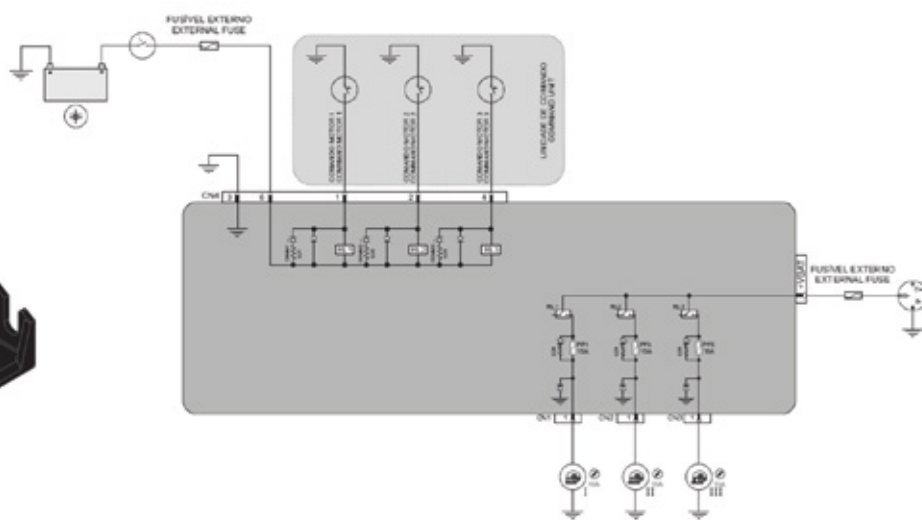
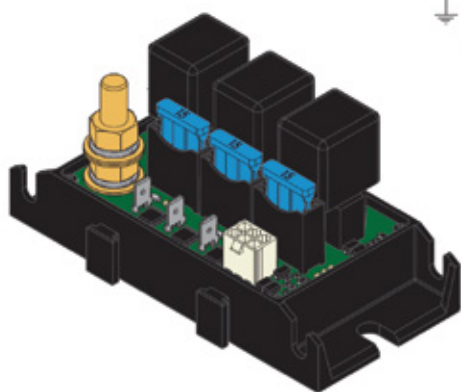
EZ POWER

HVAC + R

STANDARD

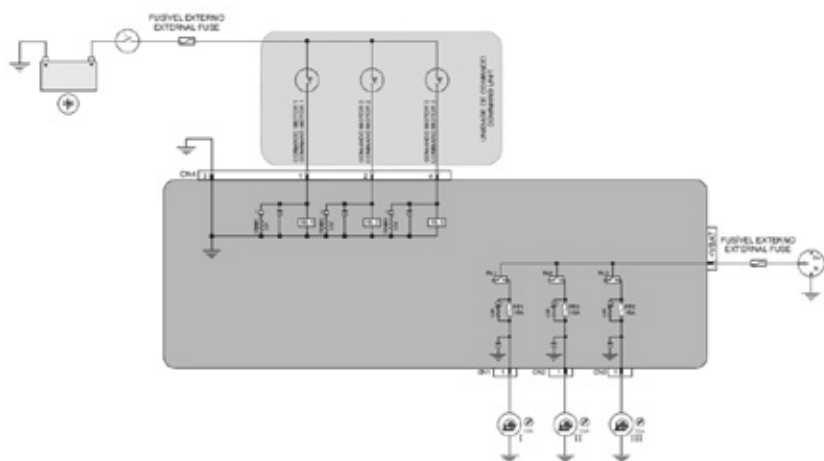
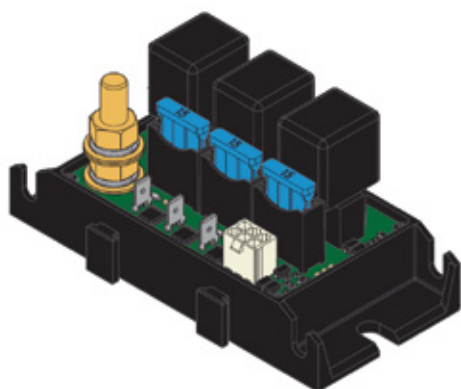
EZ POWER NEGATIVE ACTIVATION

GL-R1SGL001 (12 VDC) | GL-R2SGL001 (24 VDC)



EZ POWER POSITIVE ACTIVATION

GL-R1SGL002 (12 VDC) | GL-R2SGL002 (24 VDC)



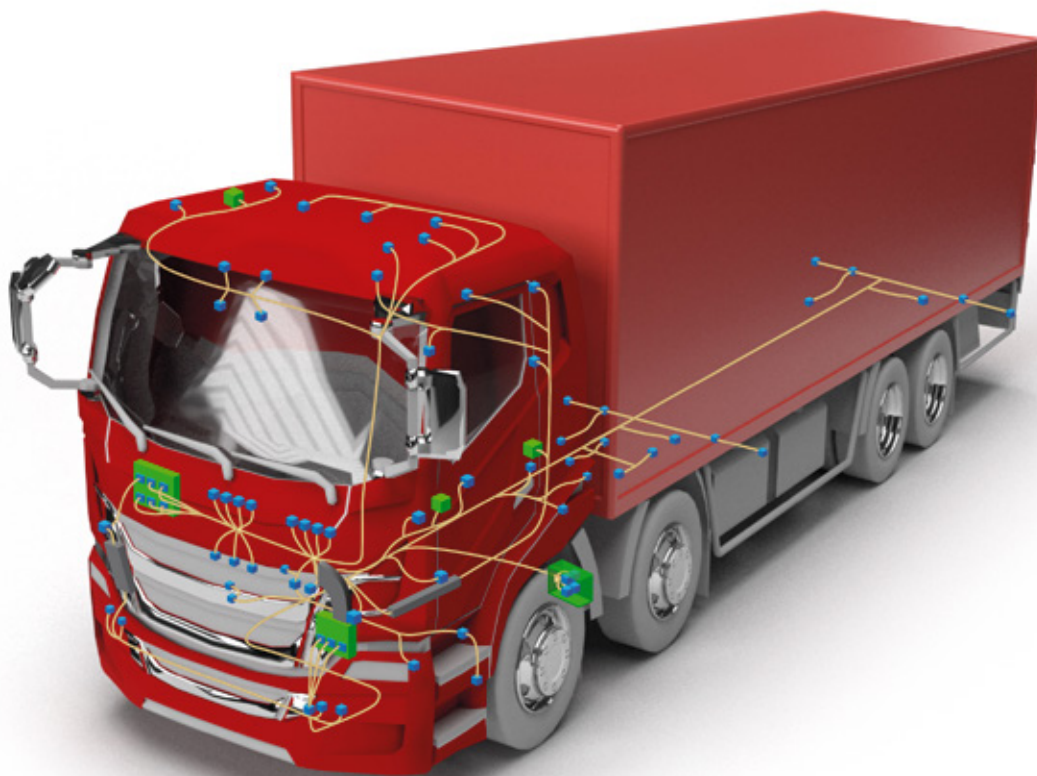
The background is a dark blue gradient. It features a large, stylized, glowing white 'G' shape on the left side. Scattered across the background are various white geometric shapes, including rectangles and lines, some of which are connected by small white dots, resembling a circuit board or a network diagram. A solid orange vertical bar is positioned on the right side of the image.

ACCESSORIES

CABLES AND WIRING HARNESSES

HVAC + R

STANDARD



MAIN FUNCTIONS

Perform power supply and information transfer in order to integrate the entire system of motor vehicles, machines, and equipment. Because of the quality and assertiveness required in assembling harnesses, experienced labor and dedicated equipment are essential.



CHARACTERISTICS

In compliance with the ABNT/NBR technical standards, Globus cables and connections guarantee quality, functionality, safety, and reliability in vehicle electrical systems.

AVAILABLE FOR

Complete cabin systems, headlights and windows, fuel pumps, transshipments, hydraulic systems, safety and interlocking, among others.

TEMPERATURE SENSORS

HVAC + R

STANDARD

Specially developed for low temperature and high humidity applications.



MAIN FUNCTIONS

NTC temperature sensors are manufactured from a thermally sensitive resistor element that has a negative coefficient (Negative Temperature Coefficient)

Offers mechanical, thermal, and electrical stability, along with a high degree of sensitivity. Acts in monitoring and warnings on the instrument panel are immediately triggered, detecting faults or unusual temperature changes

Temperature is an essential parameter for engine operation, and the sensor is one of the most important parts of the cooling system

CHARACTERISTICS

TEMPERATURE SENSOR WITH ABS CAGE

Ideal for use in the return and air duct, in buses and minibuses.

STAINLESS STEEL TEMPERATURE SENSOR

Ambient, coil (freezing) and/or external sensor. It has a stainless steel encapsulation, a more robust cable with tinned copper wires and reinforced insulation at the cable junction.

ABS TEMPERATURE SENSOR

ABS encapsulated sensors ensure great durability in humid environments, often used for cold applications.

AVAILABLE FOR



TEMPERATURE SENSOR CAGE

TECHNICAL DATA	
COLOR	WHITE / BLACK / GRAY
OPERATING TEMPERATURE	-50°C to 120°C / -58°F to 248°F
PROTECTION DEGREE	IP20
SENSOR - THERMISTOR	NTC 10KΩ +/- 0,5% @25°C / 77°F NTC 30KΩ +/- 0,5% @25°C / 77°F NTC 20KΩ +/- 0,5% @25°C / 77°F
RESPONSE TIME	<= 7s

GL-S010

10k



GL-S030

30k



SPECIAL MODELS UNDER REQUEST



WI-FI



BLUETOOTH



CELL PHONE
INTERFACE



CAN BUS



REMOTE I/O
NETWORK



DATA
LOGGER



CUSTOMIZABLE
INTERFACES



HMI

TEMPERATURE SENSOR

STAINLESS STEEL OR ABS PROBE

TECHNICAL DATA	
PROBE TYPE	Stainless Steel (AISI 304) / ABS
OPERATING TEMPERATURE	-50°C to 120°C / -58°F to 248°F -50°C to 105°C / -58°F to 221°F
PROTECTION DEGREE	IP 68
SENSOR - THERMISTOR	NTC 10KΩ +/- 1% @25°C / 77°F NTC 30KΩ +/- 1% @25°C / 77°F NTC 20KΩ +/- 1% @25°C / 77°F
RESPONSE TIME	10 seconds

STAINLESS STEEL



ABS



Available in various length and diameter sizes. For other connector options please check with our commercial technical department.

SPECIAL MODELS UNDER REQUEST


WI-FI


BLUETOOTH


CELL PHONE
INTERFACE


CAN BUS


REMOTE I/O
NETWORK


DATA
LOGGER


CUSTOMIZABLE
INTERFACES


HMI



TEMPERATURE SENSOR

STAINLESS STEEL SENSOR

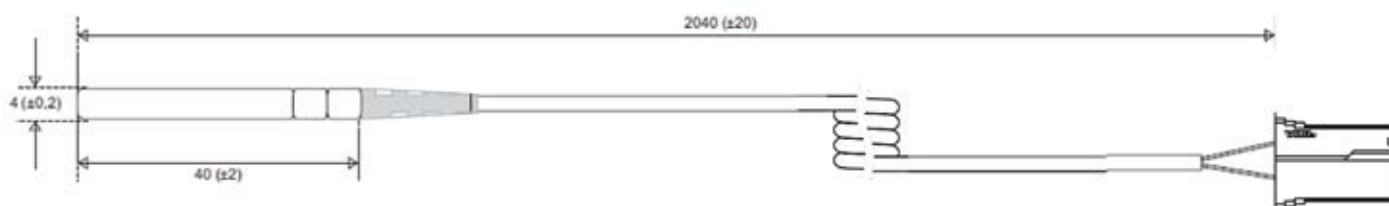
GL-A1SGL001

NTC 10K Ω

Cable Length: 2 m

Probe Length: 40mm

Cable 2x23awg



GL-A1SGL816

NTC 10K Ω

Cable Length: 2 m

Probe Length: 50mm

Cable 2x22awg



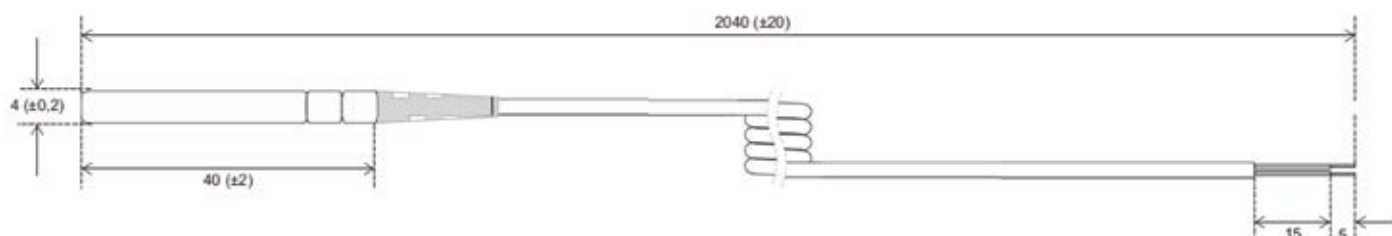
GL-A1SGL004

NTC 10K Ω

Cable Length: 2 m

Probe Length: 40mm

Cable 2x23awg

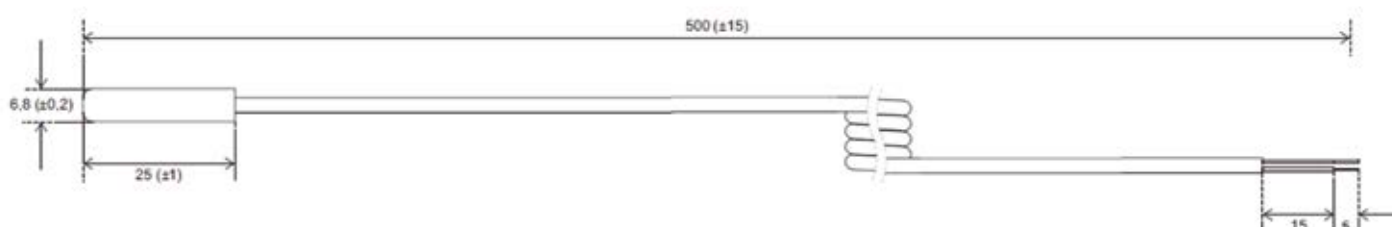


TEMPERATURE SENSOR

ABS SENSOR

GL-GS814

NTC 10K Ω
Cable Length: 500mm
Probe Length: 25mm
Cable 2x26awg



GL-S033

NTC 30K Ω
Cable Length: 540mm
Probe Length: 25mm
Cable 2x23awg



CONNECTORS



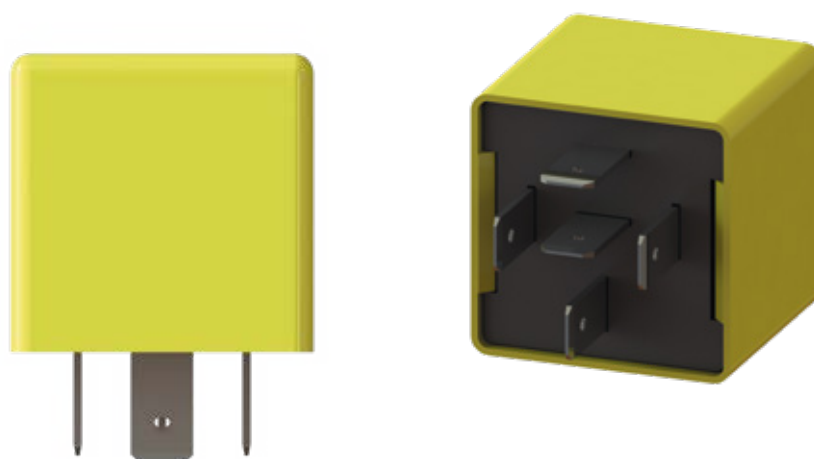
POSITIVE LOCK 12 ways
Part Number: 926522-2

TERMINAL: POSITIVE LOCK
CABLE 2,5 mm² PN: 880645-6

DAMPER CONTROL

HVAC + R

STANDARD



MAIN FUNCTIONS

FLAP ON /OFF CONTROL

AIR CONDITIONING

REFRIGERATION

FRONT BOX

CHARACTERISTICS

Microprocessor module for flap control.

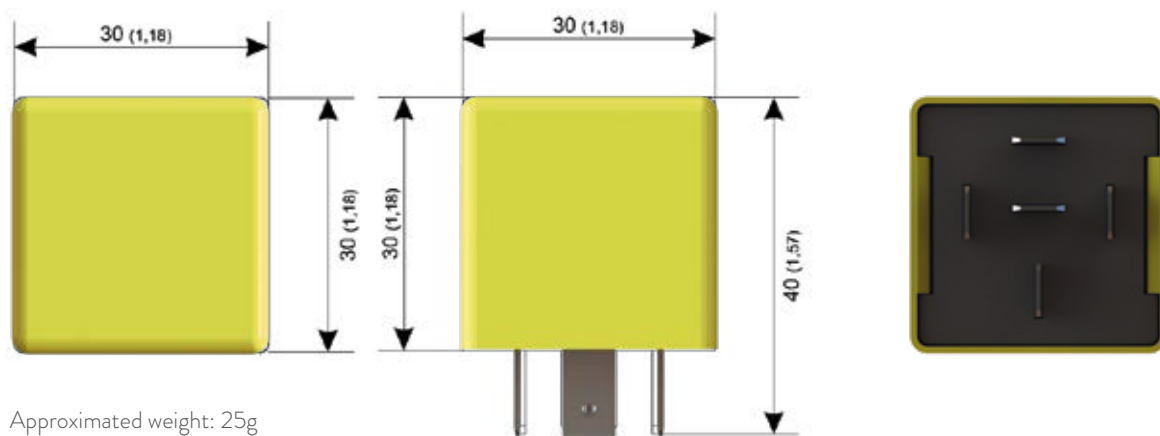
Controls a motor with a maximum current of 1A.

Has motor short protection.

AVAILABLE FOR



TECHNICAL DATA



Approximated weight: 25g

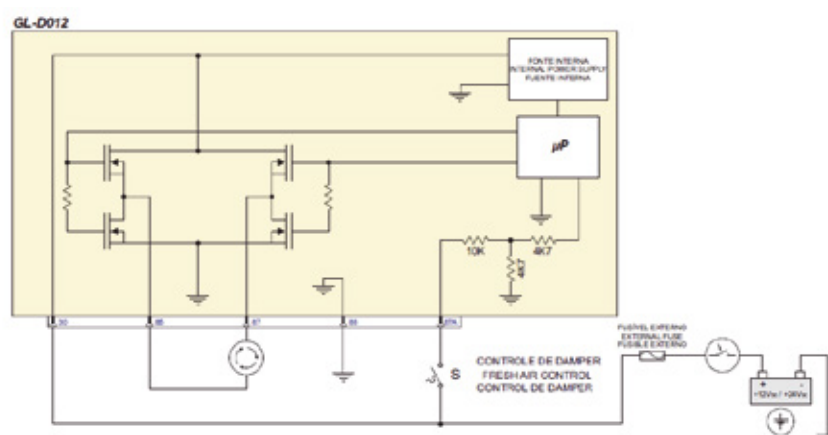
TECHNICAL DATA	
NOMINAL VOLTAGE	12 VDC / 24 VDC
VOLTAGE RANGE	10 VDC / 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	500 mA
OUTPUT SHORT-CIRCUIT	Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE	-40°C to +85°C
STORAGE TEMPERATURE	-40°C to +80°C / -40°F to +176°F
PROTECTION DEGREE	IP 50
CONNECTOR	Standard relay socket
MAXIMUM CURRENT CONSUMPTION	6mA @ 12VDC / 18mA @ 24VDC
STANDBY CONSUMPTION	N/A
Observations: MOTOR SUGGESTION: BOSCH (CODE:0 132 801 143) / ACTIVATION TIME: 5 SECONDS	

* According to product configuration. ** Consumption may vary according to customer specifications.

We keep the right to update or change information regarding products without prior notice.

DAMPER CONTROL / FRESH AIR CONTROL

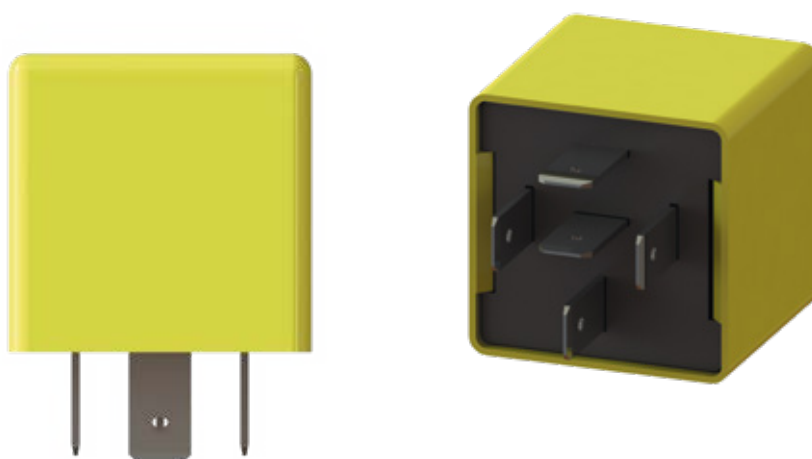
GL-D012



ELECTRONIC THERMOSTAT

HVAC + R

STANDARD



MAIN FUNCTIONS

COIL FREEZE PROTECTION

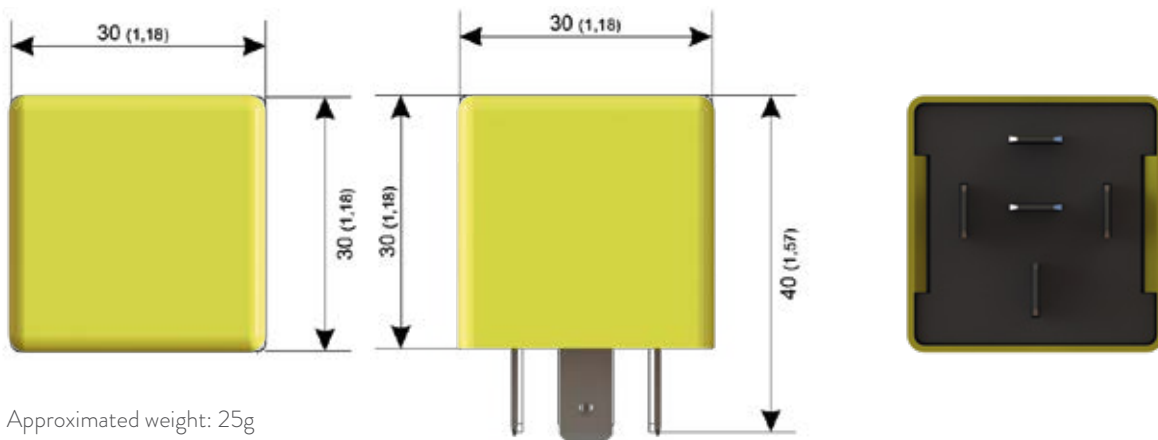
CHARACTERISTICS

- Plastic Housing
- Standard relay size
- 0.6°C (31°F) Switch-off temperature
- Reset temperature 3.9°C (39°F)
- 15s hysteresis to reset after switch-off
- 5s delay for voltage selection and output activation after power up
- Output shutdown when product is at temperature sensor failure

AVAILABLE FOR



TECHNICAL DATA



CONNECTORS



AMP Faston – 5 ways
Part Number: 10763622
Terminal - PN: 735222-2
Manufacturer: AMP Faston



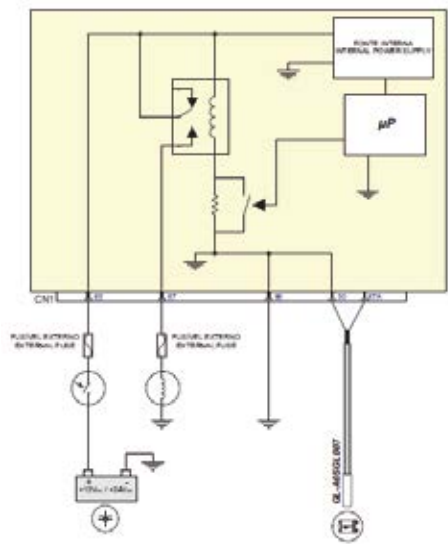
TEMPERATURE SENSOR 10K
Part Number: GL-A0SGL007
Manufacturer: GLOBUS

CONNECTOR + TERMINAL + SENSOR SOLD TOGETHER WITH THERMOSTAT

TECHNICAL DATA	
NOMINAL VOLTAGE	12 VDC / 24 VDC
OPERATING VOLTAGE RANGE	9 VDC to 30 VDC
MAXIMUM VOLTAGE	32 VDC during 5 min
MAXIMUM CURRENT PER OUTPUT	6A@12VDC / 3A@24VDC
OUTPUT SHORT-CIRCUIT	Not Protected *
REVERSE POLARITY	Protected *
OPERATING TEMPERATURE RANGE	-40°C to +85°C
STORAGE TEMPERATURE	-40°C to +85°C / -40°F to +185°F
PROTECTION DEGREE	IP 50
CONNECTOR	Standard relay socket
MAXIMUM CURRENT CONSUMPTION	37mA @ 12VDC / 40mA @ 24VDC
STANDBY CONSUMPTION	10mA @ 12VDC / 10mA @ 24VDC

* According to product configuration. ** Consumption may vary according to customer specifications.
We keep the right to update or change information regarding products without prior notice.

ELECTRONIC THERMOSTAT
GL-M1HGL006



The background is a dark blue gradient. It features a large, white, stylized letter 'G' on the left side. Scattered across the background are thin, white, circuit-like lines and small dots, some of which are connected to the 'G' shape. A solid orange vertical bar runs along the right edge of the image.

AIR QUALITY

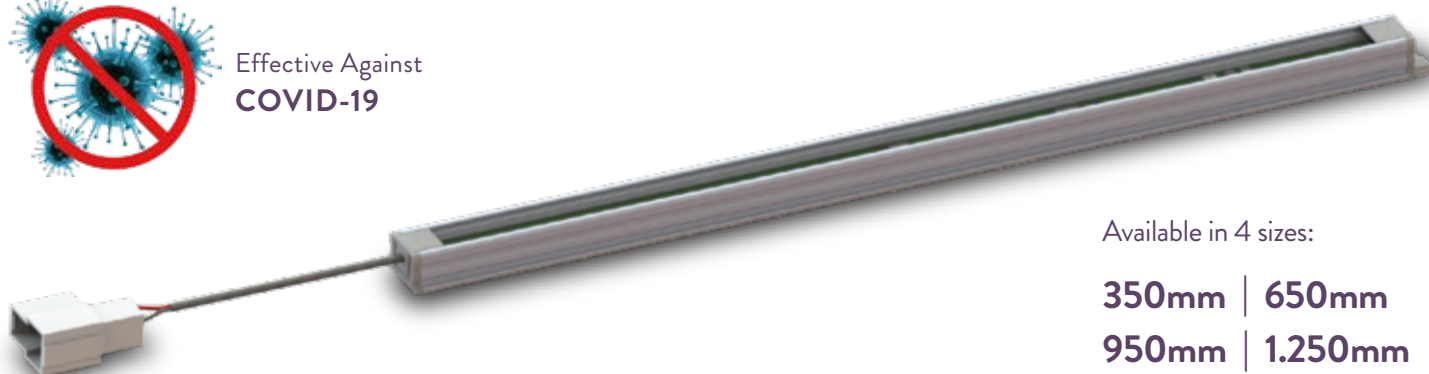
AIR QUALITY

STANDARD

Protecting human health without the use of harmful chemicals or materials



Effective Against
COVID-19



Available in 4 sizes:

350mm | 650mm

950mm | 1.250mm

MAIN FUNCTIONS

- Efficient in environment disinfection, reducing or eliminating viruses and bacterias present in the air.
- Efficient in combating Coronavirus and respiratory and allergic diseases caused mostly by the presence of contaminants in public environments.
- The UV-C light helps keep the air conditioning coil clean for longer, avoiding various diseases for transport users while also reducing the need for periodic maintenance cleaning.
- The increase in HVAC cooling capacity and decreased pressure drop results in energy savings.
- No maintenance needed.
- Easy Installation.

CHARACTERISTICS

Low installation and maintenance cost product designed to increase safety and comfort in public transport. This product does not use any chemical substances nor anything harmful to the environment and people, if used correctly.

SUITABLE FOR VARIOUS ENVIRONMENTS

HOSPITALS

RESIDENTIAL

COMMERCIAL AND BUSINESS

PUBLIC TRANSPORT



CONNECTORS



POSITIVE LOCK 2 ways
Part Number: 926522-2
Terminal - PN: 880645-6
Manufacturer: AMP

USE 3A
EXTERNAL
FUSE

TECHNICAL DATA				
PART NUMBER	GL-LOBGL001	GL-LOBGL003	GL-LOBGL002	GL-LOBGL004
SIZE	350mm	650mm	950mm	1250mm
NOMINAL VOLTAGE	24VDC	24VDC	24VDC	24VDC
OPERATING VOLTAGE RANGE	22VDC - 30VDC	22VDC - 30VDC	22VDC - 30VDC	22VDC - 30VDC
MAXIMUM VOLTAGE	30VDC	30VDC	30VDC	30VDC
CURRENT	185 mA	370 mA	550mA	735 mA
POWER	3,8 W	8,9 W	13,2W	17,7 W
OPERATING TEMPERATURE RANGE	-20 - 80°C	-20 - 80°C	-20 - 80°C	-20 - 80°C
NUMBER OF LEDS	6	12	18	24
RADIANT FLUX PER LED	54 mW	108 mW	162 mW	216 mW
WAVE LENGTH	270-280nm	270-280nm	270-280nm	270-280nm
APPROXIMATED WEIGHT	90g	100g	110g	120g

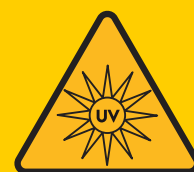
Observations:

For other options and models, consult our sales department.

We keep the right to update or change information regarding products without prior notice.



RECOMMENDATIONS



High intensity ultraviolet light. Protect eyes and skin.

THIS DEVICE HAS ULTRAVIOLET LEDS. DURING OPERATION, THE LED EMITS HIGH INTENSITY ULTRAVIOLET(UV) LIGHT, WHICH IS HARMFUL TO THE SKIN AND EYES.

DO NOT LOOK DIRECTLY INTO THE ULTRAVIOLET LIGHT AND WEAR PROTECTIVE EQUIPMENT DURING OPERATION.

UV-C LIGHT CAN CAUSE INFLAMMATION IN THE EYES AND CORNEA, CAUSING IRREVERSIBLE DAMAGE TO THE EYES, WHICH CAN CAUSE BLINDNESS.

THE EMISSION OF UV-C LIGHT MUST BE IN A SEALED PLACE, WITHOUT POSSIBILITY OF CONTACT WITH HUMANS.

IT IS RECOMMENDED TO INSTALL AN AUTOMATIC SWITCH SO THAT THE POWER IS INTERRUPTED WHEN OPENING THE COVER WHERE THE LIGHT IS ENCLAUSED.

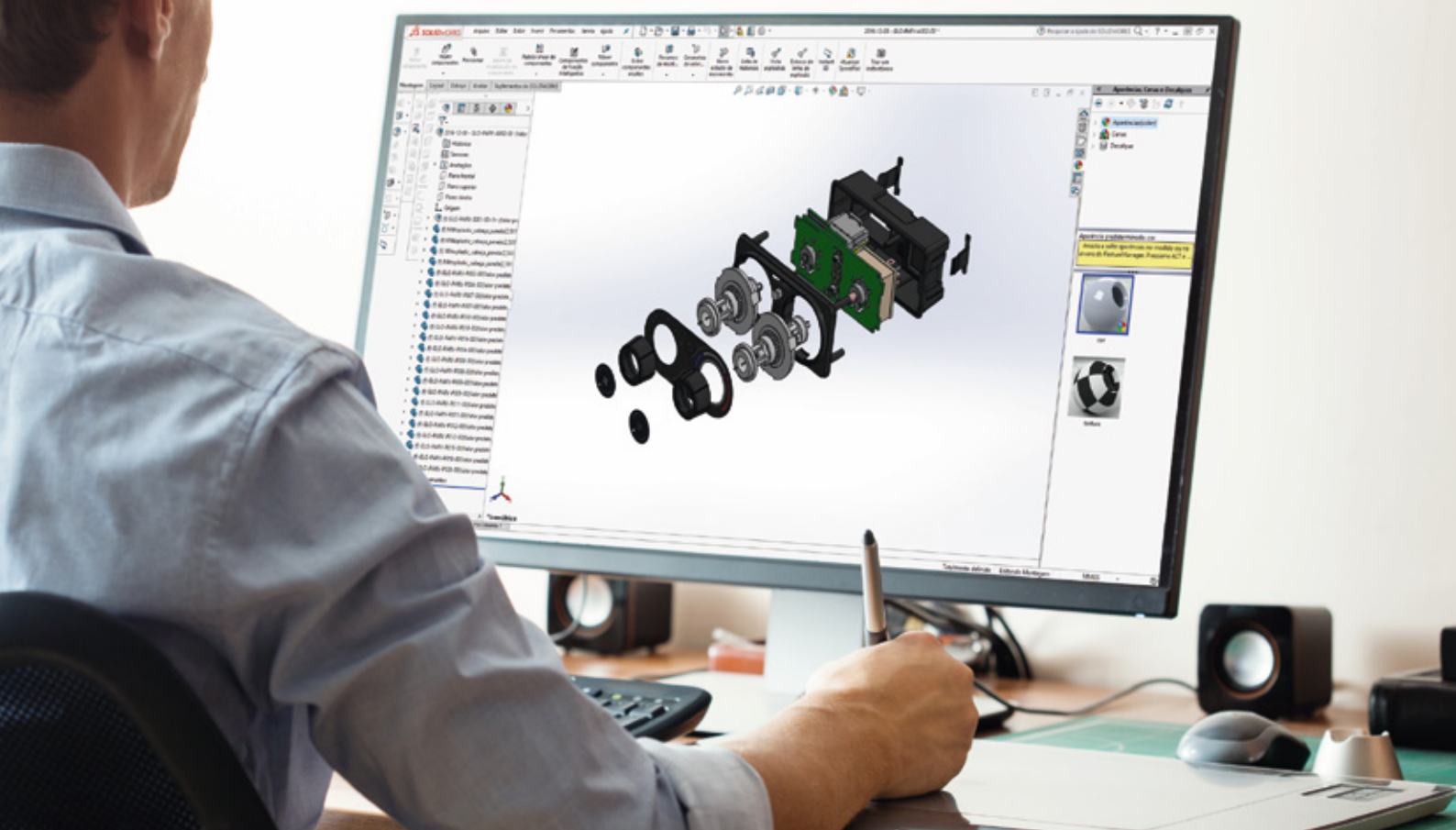
ULTRAVIOLET LIGHT IS DANGEROUS FOR THE SKIN AND CAN CAUSE CANCER. AVOID EXPOSURE TO ULTRAVIOLET LIGHT WHEN THE LED IS OPERATIONAL.

PRECAUTION MUST BE TAKEN TO AVOID LOOKING DIRECTLY AT ULTRAVIOLET LIGHT WITHOUT THE USE OF GLASSES. DO NOT LOOK DIRECTLY AT THE FRONT OF THE LED OR THE LED LENS WHEN THE LED IS OPERATIONAL

BECAUSE IT IS INVISIBLE LIGHT TO THE HUMAN EYE, THE DEVICE HAS A BLUE LED INDICATING IT IS ON.

A hand is shown pointing towards the center of the image. Overlaid on the background is a network diagram consisting of several circular nodes connected by dashed lines. One node at the top center is highlighted with a bright white glow and concentric circles. An orange line with a dot at its end extends from the right side of the word 'CUSTOMIZE' across the image.

CUSTOMIZE



CUSTOMIZATION IS OUR DIFERENTIAL

With a highly qualified technical team and engineers, we offer the necessary reliability and the customization of products according to the preferences and needs of our customers.





WE ARE TODAY.
WE ARE TOMORROW.
WE ARE GLOBUS!



Globus
Electronics



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