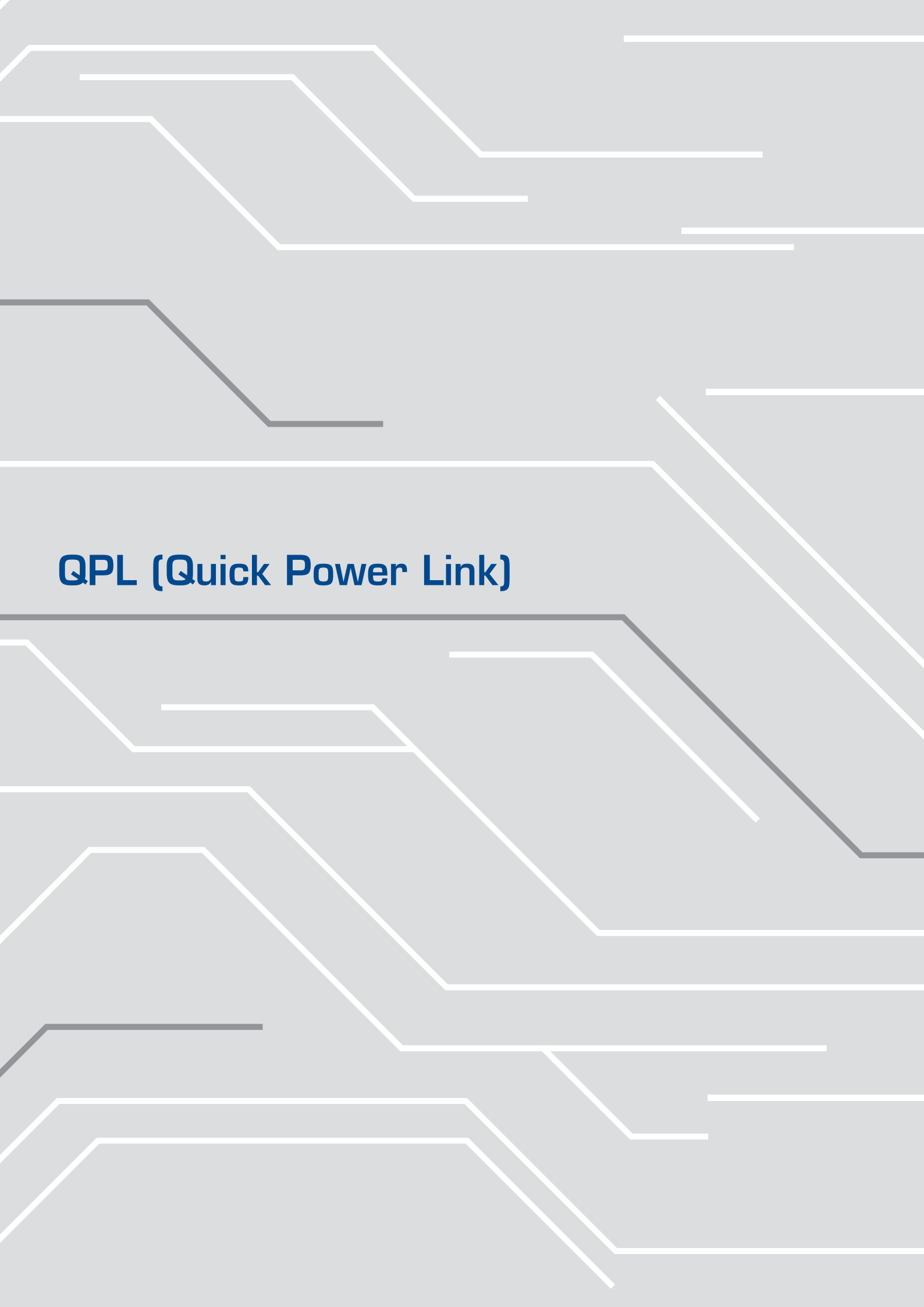




QPL (Quick Power Link)

QPL (Quick Power Link) / Press-Fit Technology



La QPL è una scheda per la gestione dell'alimentazione elettrica completa di relè e fusibili.

Razionalizza i cablaggi per la distribuzione della potenza elettrica nei veicoli.

La QPL può essere equipaggiata con il modulo di controllo intelligente "Liberty Link" (pag.120,121) che sfrutta la rete CAN BUS per la gestione dei relè.

La Liberty Link è programmabile tramite tool VT3

Le versioni qui presentate sono degli standard.

Versioni personalizzate possono essere sviluppate secondo le specifiche necessarie applicazioni.

PLUS

- montaggio facile e veloce
- risparmio di spazio e riduzione dei cablaggi
- facile connessione

The QPL is a board for the electrical power management complete of relays and fuses.

The QPL streamlines the wiring harnesses for the distribution of the electrical power into vehicles.

The QPL can be equipped with the intelligent control module "Liberty Link" (page 120,121) which uses the CAN BUS network to handle the relays.

The Liberty Link is programmable via the VT3 tool.

The versions presented here are the standard.

The customized versions can be developed according to necessary specific applications.

ADVANTAGES

- quick and easy installation
- space saving and reduction to wiring harnesses
- easy connection

QPL (Quick Power Link) / Press-Fit Technology

QPL – M

Dimensioni: 161 x 154 x 83 mm



QPL – S

Dimensioni: 161 x 140 x 83 mm



- Micro relè
- Mini relè
- Fusibili Unival
- Fusibili Minival
- Liberty link
- Fusibili di riserva

	QPL – M (Quick Power Link - Medium)	QPL – S (Quick Power Link - Small)
Alimentazione	12V o 24 V	12V o 24 V
Temperatura di funzionamento	- 30°C ÷ +80°C	- 30°C ÷ +80°C
Grado di protezione	IP42 con connettori correttamente collegati	IP42 con connettori correttamente collegati
Terminali di potenza	M6 alimentazione della batteria M5 alimentazione interruttore a chiave	M6 alimentazione della batteria M5 alimentazione interruttore a chiave
Terminazione CAN BUS	120 Ohm resistore a bordo	120 Ohm resistore a bordo
Autoestinguenza	UL 94V-0	UL 94V-0
Conformità CE	ISO 14982; EN 13309	ISO 14982; EN 13309
Conformità radiodisturbo	CISPR 25	CISPR 25
Prestazioni elettriche	ISO 7637	ISO 7637
Prove ambientali	EN 60068-2-1; EN 60068-2-2; EN 60068-2-6; EN 60068-2-27	EN 60068-2-1; EN 60068-2-2; EN 60068-2-6; EN 60068-2-27
Relè	- N° 4 sedi per micro relè (versione 10/20A a 12Vdc - versione 8/15A a 24Vdc) - N° 2 sedi per mini relè (versione 30/40A a 12Vdc - versione 10/20A a 24Vdc version) o unità elettroniche Cobo (max 9 pin collegati) - N° 11 relè PCB (versione 10/15A on 12Vdc)	- N° 8 sedi per micro relè (versione 10/20A a 12Vdc - versione 8/15A a 24Vdc) - N° 2 sedi per mini relè (versione 30/40A a 12Vdc - versione 10/20A a 24Vdc version) o unità elettroniche Cobo (max 9 pin collegati) - N° 4 relè PCB (versione 10/15A on 12Vdc)
Fusibili	- N° 5 fusibili Unival max 30A (Vedi schema elettrico) - N° 20 fusibili Minival max 15A (Vedi schema elettrico)	- N° 5 fusibili Unival max 30A (Vedi schema elettrico) - N° 14 fusibili Minival max 15A (Vedi schema elettrico)
Liberty Link	- N° 1 Modulo di comunicazione CAN BUS	- N° 1 Modulo di comunicazione CAN BUS
Ingresso/uscita alloggiamento connettore	- X10 = 9 posizioni MCP 2.8 Tyco ref. 8-0968971-1 - X11 = 6 posizioni MCP 2.8 Tyco ref. 8-0968970-2 - X12 = 21 posizioni MCP 2.8 Tyco ref. 8-0968975-2 - X13 = 12 posizioni MCP 2.8 Tyco ref. 8-968972-2 - X14 = 18 posizioni MCP 2.8 Tyco ref. 8-0968974-1 - X15 = 8 posizioni Minifi ref. 5557-08R-210 - X16 = 6 posizioni Minifi ref. 5557-06R-210 - X17 = 22 posizioni Minifi ref. 5557-22R-210	- X1 = 21 posizioni MCP 2.8 Tyco ref. 8-0968975-1 - X2 = 12 posizioni MCP 2.8 Tyco ref. 8-0968972-1 - X3 = 15 posizioni MCP 2.8 Tyco ref. 8-0968973-1 - X4 = 6 posizioni MCP 2.8 Tyco ref. 8-0968970-1 - X5 = 6 posizioni Minifi ref. 5557-06R-210 - X6 = 12 posizioni Minifi ref. 5557-12R-210 - X7 = 14 posizioni Minifi ref. 5557-14R-210

QPL (Quick Power Link) / Press-Fit Technology

QPL – M

Dimensions: 161 x 154 x 83 mm

QPL – S

Dimensions: 161 x 140 x 83 mm

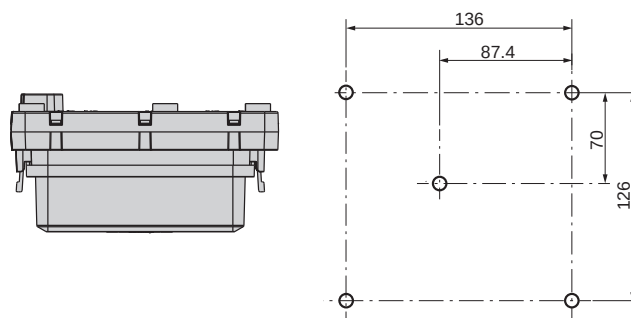
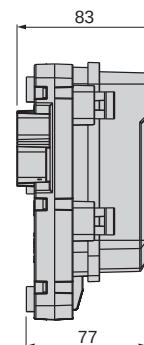
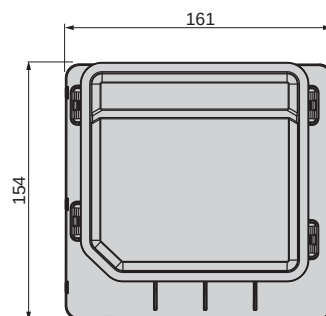


- Micro relays
- Mini relays
- Unival Fuses
- Minival Fuses
- Liberty link
- Reserve fuses



	QPL – M (Quick Power Link - Medium)	QPL – S (Quick Power Link - Small)
Power supply	12V or 24 V	12V or 24 V
Operative temperature	- 30°C ÷ +80°C	- 30°C ÷ +80°C
Sealing degree	IP42 with connectors properly plugged	IP42 with connectors properly plugged
Power terminals	M6 battery power supply M5 key switch power supply	M6 battery power supply M5 key switch power supply
CAN BUS terminating	120 Ohm resistor on board	120 Ohm resistor on board
Self-extinguishing	UL 94V-0	UL 94V-0
CE compliance	ISO 14982; EN 13309	ISO 14982; EN 13309
Radio Disturbance Conformity	CISPR 25	CISPR 25
Electrical performance	ISO 7637	ISO 7637
Enviromental test	EN 60068-2-1; EN 60068-2-2; EN 60068-2-6; EN 60068-2-27	EN 60068-2-1; EN 60068-2-2; EN 60068-2-6; EN 60068-2-27
Relays	- N° 4 locations for micro relays (10/20A on 12Vdc version - 8/15A on 24Vdc version) - N° 2 location for mini relays (30/40A on 12Vdc version - 10/20A on 24Vdc version) or Cobo electronic units (max 9 pins connected) - N° 11 PCB relays (10/15A on 12Vdc version)	- N° 8 locations for micro relays (10/20A on 12Vdc version - 8/15A on 24Vdc version) - N° 2 location for mini relays (30/40A on 12Vdc version - 10/20A on 24Vdc version) or Cobo electronic units (max 9 pins connected) - N° 4 PCB relays (10/15A on 12Vdc version)
Fuses	- N° 5 Unival Fuses max 30A (see wiring diagram) - N° 20 Minival Fuses max 15A (see wiring diagram)	- N° 5 Unival Fuses max 30A (see wiring diagram) - N° 14 Minival Fuses max 15A (see wiring diagram)
Liberty Link	- N° 1 CAN BUS communication module	- N° 1 CAN BUS communication module
Connector Input/Output plugs housing	- X10 = 9 positions MCP 2.8 Tyco ref. 8-0968971-1 - X11 = 6 positions MCP 2.8 Tyco ref. 8-0968970-2 - X12 = 21 positions MCP 2.8 Tyco ref. 8-0968975-2 - X13 = 12 positions MCP 2.8 Tyco ref. 8-968972-2 - X14 = 18 positions MCP 2.8 Tyco ref. 8-0968974-1 - X15 = 8 position Minifi ref. 5557-08R-210 - X16 = 6 position Minifi ref. 5557-06R-210 - X17 = 22 position Minifi ref. 5557-22R-210	- X1 = 21 positions MCP 2.8 Tyco ref. 8-0968975-1 - X2 = 12 positions MCP 2.8 Tyco ref. 8-0968972-1 - X3 = 15 positions MCP 2.8 Tyco ref. 8-0968973-1 - X4 = 6 positions MCP 2.8 Tyco ref. 8-0968970-1 - X5 = 6 positions Minifi ref. 5557-06R-210 - X6 = 12 position Minifi ref. 5557-12R-210 - X7 = 14 position Minifi ref. 5557-14R-210

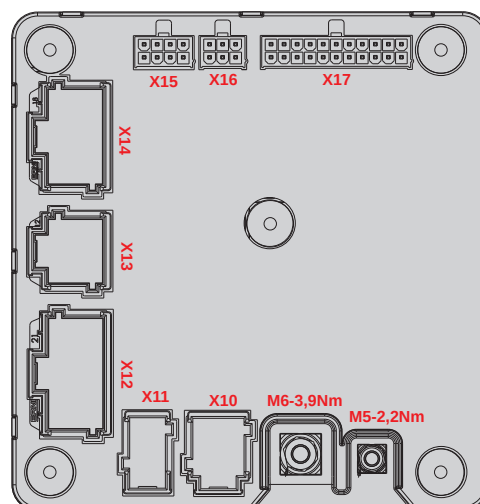
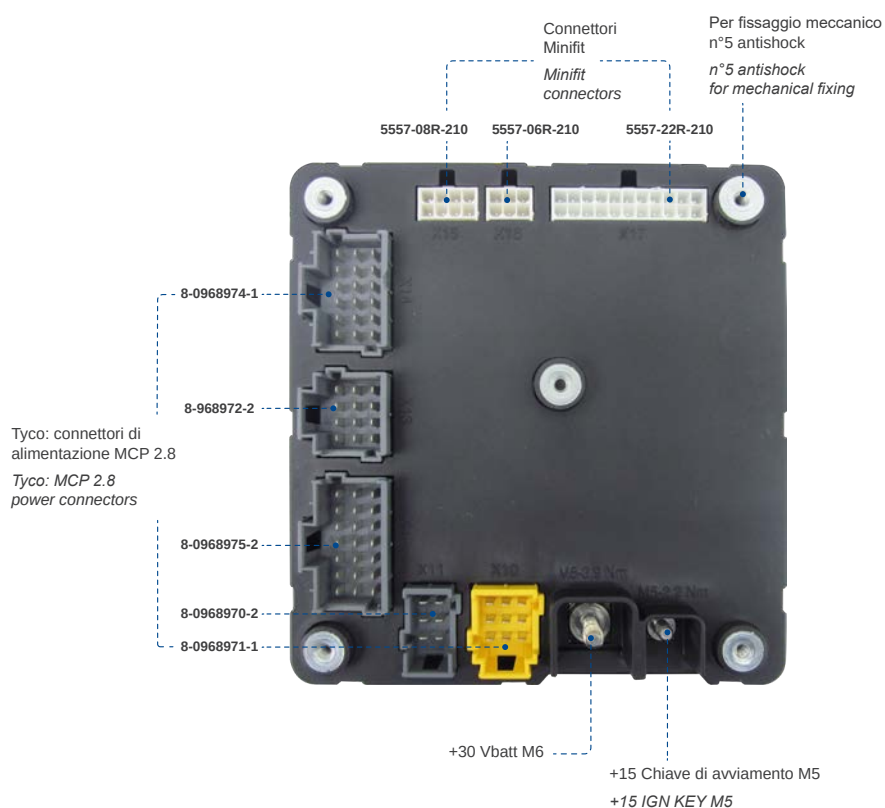
QPL - M (Quick Power Link - Medium) / Press-Fit Technology



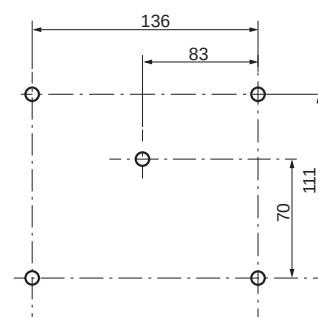
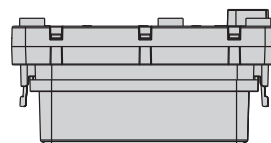
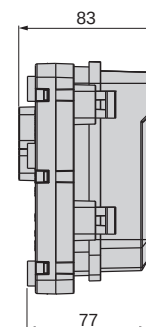
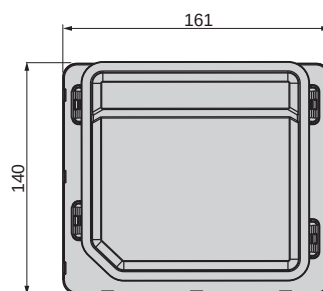
P/N	Q.ta Q.ty
1083073 0A057745	1

**FORNITA COMPLETA DI:
RELAYS, FUSIBILI E LIBERTY LINK**

**SUPPLIED COMPLETE WITH:
RELAYS, FUSES AND LIBERTY LINK**



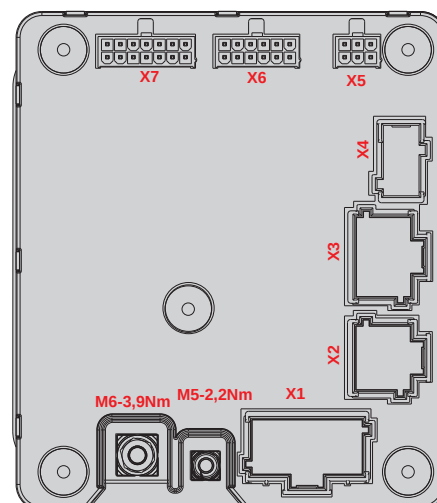
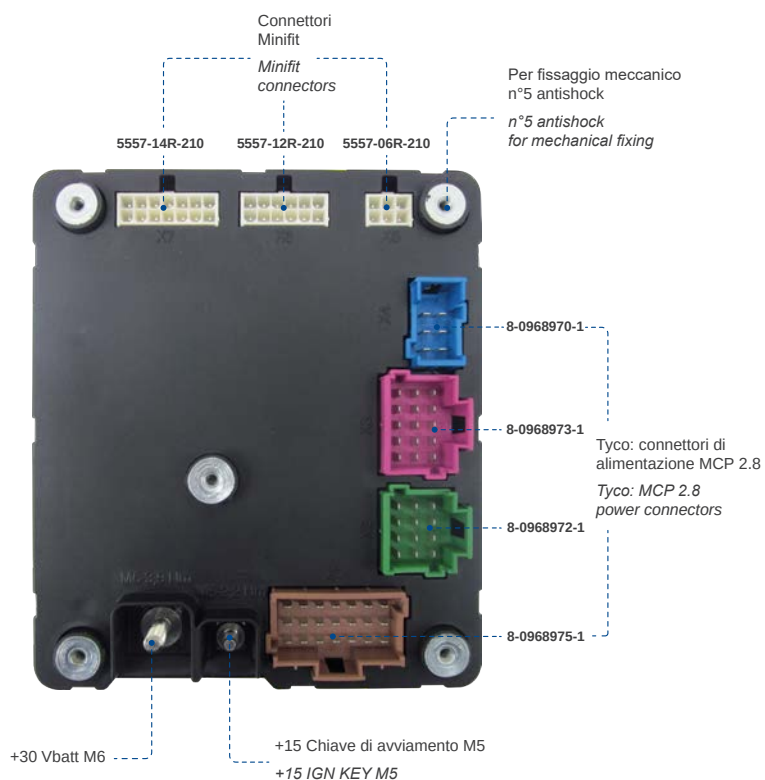
QPL - S (Quick Power Link - Small) / Press-Fit Technology



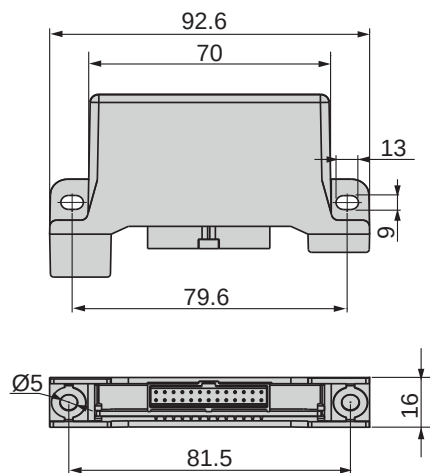
P/N	Q.ta Q.ty
1083070 0A057742	1

**FORNITA COMPLETA DI:
RELAYS, FUSIBILI E LIBERTY LINK**

**SUPPLIED COMPLETE WITH:
RELAYS, FUSES AND LIBERTY LINK**



Liberty Link - Module



P/N	Q.ta Q.ty
1090842 LYLK2.0.S1	1

VT3 Programmable



Liberty Link - Module

SPECIFICHE TECNICHE- Technical data	
ALIMENTAZIONE Power supply	8 - 34V suitable for machine battery direct connection 6 - 40V absolute limits
ALIMENTAZIONE LOGICA/CONSUMO DI CORRENTE INATTIVO (*) Logic power supply/Idle current consumption	45 mA (50 mA max)
INGRESSI DIGITALI Digital inputs	N° 2
MASSIMA FREQUENZA INGRESSO DIGITALE Max frequency digital input	10 kHz
USCITE ON/OFF On/off outputs	N° 18 driving the QPL relays
CORRENTE IN USCITA SINGOLA Single output current	200 mA (350 mA max)
CORRENTE IN USCITA TOTALE MAX / ASSORBIMENTO MAX Maximum total output current / supply current	2.7 A @ T max = +80 °C, full load
MICROCONTROLORE Microcontroller	1x Freescale 8bit, 40MHz
MEMORIA Memory	4kB RAM 2kB E2PROM
CAN BUS line	CAN-bus, 2.0B high speed, (11 or 29 bit identifier), ISO 11898-2 compliant, speed up to 1Mbit/s, CAN-OPEN compatible
ALTRE SPECIFICHE - Other data	
TEMPERATURA DI FUNZIONAMENTO Operating temperature	-40°C ÷ 80°C
TEMPERATURA DI STOCCAGGIO Storage temperature	-40°C ÷ 85°C
MTTF	265 years
LIVELLO DI PERFORMANCE Performance level	up to C
CATEGORIA Category	1
MATERIALI - Material	
CONTENITORE Case	PA66 GF30
CONNETTORE Connector	MOLEX 90130-3126

(*) La Liberty Link va alimentata sotto chiave di accensione (+15)
Liberty Link shall be powered by removable power supply (+15)

SPECIFIC APPLICATIONS DEVICES

da pagina
from page

CASES WITH: RESISTORS, DIODES, CAPACITORS.....	124
SUPPRESSOR DIODES.....	125
DIODE RESISTENCE MODULE	126
DIODE MODULE.....	127
PRE-HEATING UNITS.....	128
TRAILER LIGHTING CONTROL UNIT.....	130
CONTROL UNIT RELAY MODULE.....	131

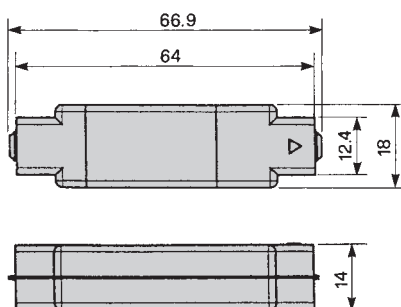


Cases with: Resistors, Diodes, Capacitors



- Materiale: poliammide
- Terminale lamellare maschio serie 6,35

- Material: polyamide
- 6,35 series male blade terminal



P/N	Q.ta Q.ty	Resistenze Resistors	Diodi Diodes	Condensatori Capacitors
1029903 30-14-06591	100	100K - 0W5 - 5%		
1029904 30-14-06592	100	330Ω - 2W		
1029905 30-14-06593	100	1K - 1W - 5%		
1029907 30-14-06595	100	100Ω - 2W - 5%		
1029908 30-14-06597	100	2K2 - 0W5 - 1%		
1029911 30-14-06599	100	2K - 0W25 -1%		
1029912 30-14-06600	100	10K - 0W25 - 5%		
1029898 30-14-06547	100	120Ω - 0W5 - 5%		
1029939 30-14-10831	100	470Ω - 3W - 5%		

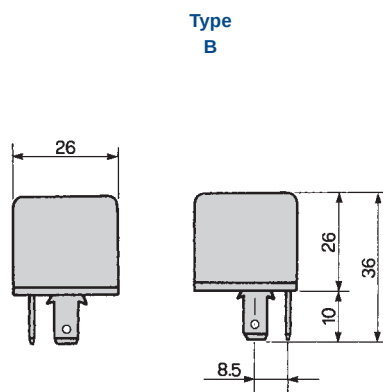
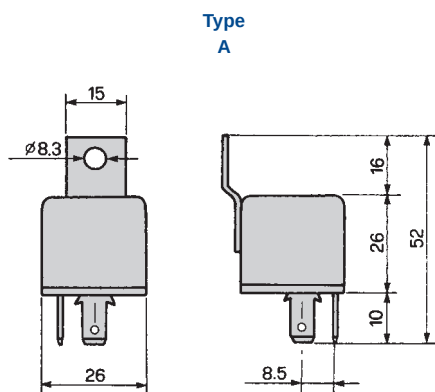
P/N	Q.ta Q.ty	Resistenze Resistors	Diodi Diodes	Condensatori Capacitors
1080334 30-14-11670	100	1K5 - 0W5 - 5%		
1080335 30-14-11671	100	150Ω - 2W - 5%		
1081863 30-14-11752	100	2K7 - 0W5 - 5%		
1029901 30-14-06589	100		3A - 200V	
1029902 30-14-06590	100		1A - 400V	
1029910 30-14-06598	100		6A - 400V	
1029906 30-14-06594	100			100 μF - 63V
1029900 30-14-06586	100			100 μF - 50V

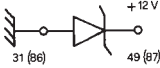
Suppressor Diodes

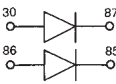


- Terminali lamellari 6,35 mm
- Temperatura di funzionamento: - 40° C ÷ + 85° C
- Temperatura di stoccaggio: - 40° C ÷ + 85° C

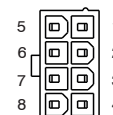
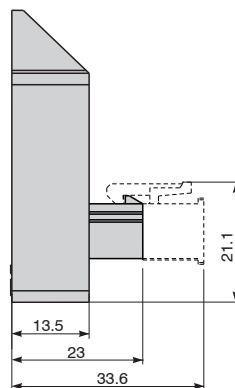
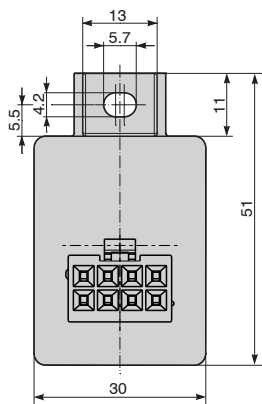
- Blade terminals 6,35 mm
- Operating temperature: -40° C ÷ + 85° C
- Storage temperature: - 40° C ÷ + 85° C



P/N	Q.ta Q.ty	Staffa Bracket	Type	Descrizione Description	Tensione di Lavoro Working Voltage	Picco Ripetitivo di Corrente Inversa Repetitive Peak Reverse Current	Tensione Torsatura Shearing Voltage	Basetta Connection Board	Schema Elettrico Wiring diagram	OLD P/N
1097266 1030627 34-007-000	2 25	X	A	Diodo di protezione contro sovratensioni <i>Protection diode against over voltage</i>	23V	33A 70A	24V @ 0,1A 40V @ 40A			1030641 34-008-000

P/N	Q.ta Q.ty	Staffa Bracket	Type	Descrizione Description	Corrente Media Average Current	Max Corrente Inversa Max Reverse Current	Tensione Inversa Reverse Voltage	Basetta Connection Board	Schema Elettrico Wiring diagram	OLD P/N
1030652 34-009-000	2	X	A	Diodo 6A <i>Diode 6A</i>	6A (70A peak for 10ms)	0,1 mA	400V			
1030659 34-010-000	1	X	A	Soppressore avvisatore acustico <i>Horn suppressor</i>	3A (60A peak for 10ms)	0,5 mA	200V			
1030750 34-017-000	2	-	B	Doppio diodo <i>Dual diode</i>	6A		400V			

Diode Resistance Module



MINI-FIT 8 vie / 8 pins:

Connettore / Connector
P/N COBO **3009923** (XE0804061)
P/N MOLEX 39-28-8080

Connettore controparte
Mating connector
P/N COBO **3009510** (XE0801802)
P/N MOLEX 39-01-2080

P/N	Q.ta Q.ty	Numero diodi Diodes Number	Numero Resistenze Resistors Number	Schema Elettrico Wiring Diagram
-----	--------------	-------------------------------	---	------------------------------------

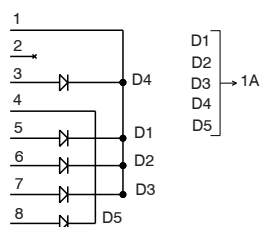
1095072
1075372

34-0207-0000

1
50

5

-



1096715 1077358 34-0211-0000	1 50	2	2	D1 → 1A D2 → 1A R1 → 100 KΩ 0,5 WATT R2 → 470 Ω 0,5 WATT
--	---------	---	---	---

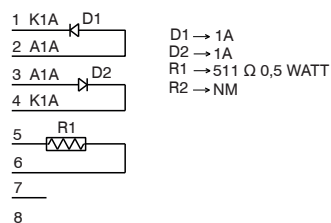
1097396
1097397

34-0231-0000

1
50

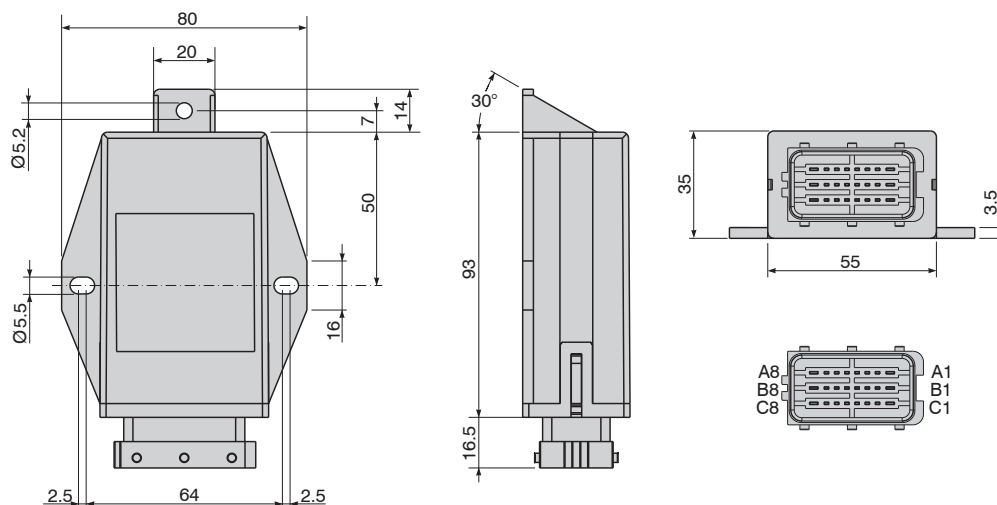
2

1



SPECIFICHE TECNICHE - Technical data	
CORRENTE MASSIMA DI CIASCUN DIODO Maximum current of each diode	1A
TEMPERATURA DI FUNZIONAMENTO Operating temperature	-40°C ÷ 70°C
TEMPERATURA DI STOCCAGGIO Storage temperature	-40°C ÷ 85°C
GRADO DI PROTEZIONE Sealing degree	IP40

Diode Module



P/N	Q.ta Q.ty
1030608 34-0048-0000	1



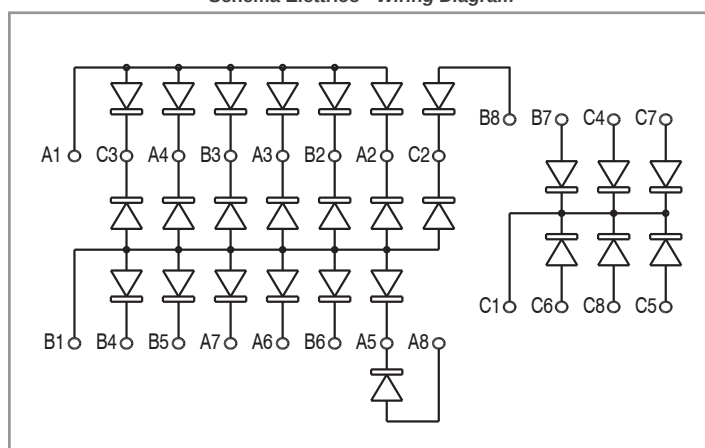
OPTIONAL KIT

Connettore controparte / Mating connector:
FRAMATONE SICMA-2 24 pins
(Includes: connector, rubber taps, slider,
female terminals)

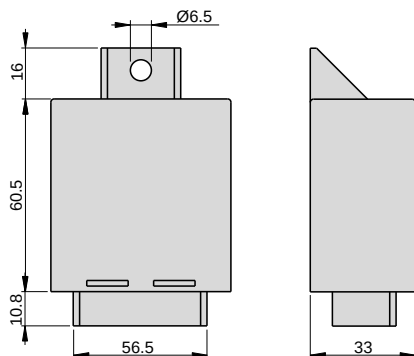
P/N	Q.ta Q.ty
1034736 46-12-010610	1

SPECIFICHE TECNICHE - Technical data	
LIMITI DI FUNZIONAMENTO Operating voltage	100V max
TEMPERATURA DI FUNZIONAMENTO Operating temperature	-40°C ÷ 85°C
GRADO DI PROTEZIONE Sealing degree	IP66
CORRENTE PRELEVABILE DA OGNI SINGOLA USCITA Current available from each output	700 mA max

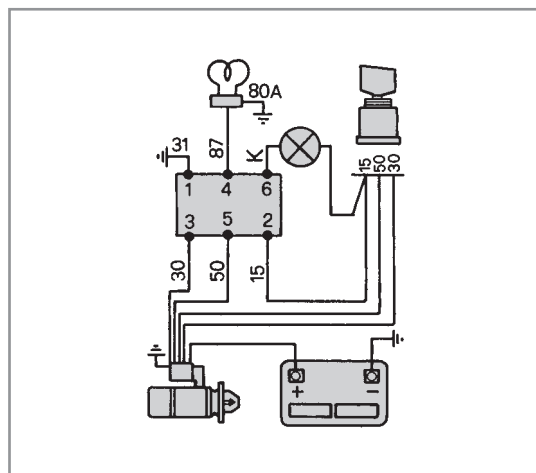
Schema Elettrico - Wiring Diagram



Pre-heating Units

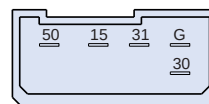
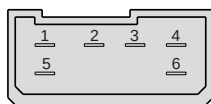


Schema di Collegamento - Circuit Diagram

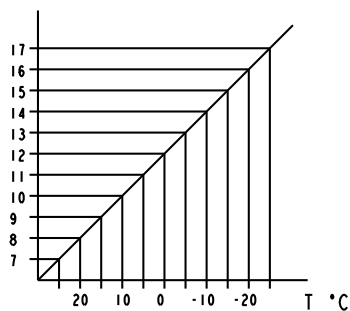


VARIAZIONE DEL TEMPO DI
PRERISCALDO IN FUNZIONE DELLA
TEMPERATURA ESTERNA

THE TIME NEEDED FOR
THE PRE-HEATING DEPENDS ON THE
OUTSIDE TEMPERATURE



Time (sec.)

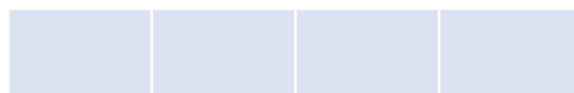
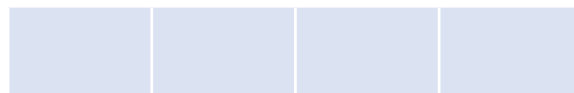


PIN OUT		
1	(31)	GROUND
2	(15)	+ KEY
3	(30)	+ BATTERY
4	(87)	GLOW PLUGS
5	(50)	IGNITION KEY
6	(K)	PREHATING WARNING LIGHT
7	-	-
8	-	-

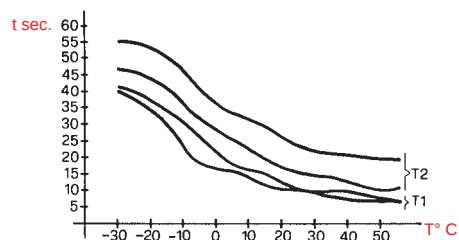
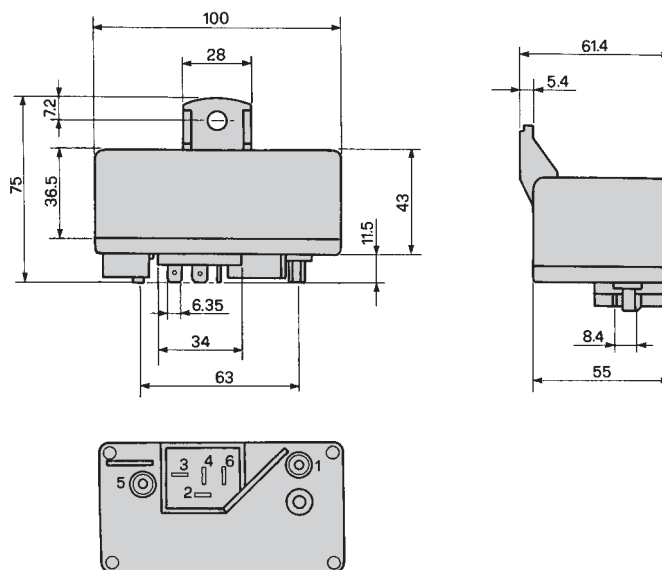
OLD PIN OUT	
31	GROUND
15	+ KEY
30	+ BATTERY
G	GLOW PLUGS
50	IGNITION KEY
-	-
-	-
-	-

P/N	Q.ta Q.ty	Alimentazione Power Supply	Carico Max Max Load	Tensione di Preriscaldamento Prehating Time
1006105 0034-0351	1	12V	23° C : 45A 85° C : 30A	15 sec
1006106 0034-0421	1	24V	23° C : 45A 85° C : 30A	15 sec

OLD P/N			
1006019 00117069	1006017 00117067	1004574 CI-00117067	1006029 00117118
1006020 00117072	1006018 00117068		

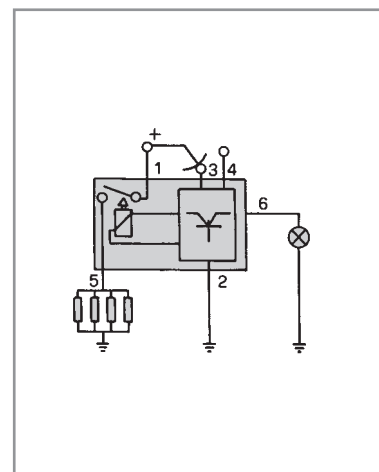


Pre-heating Units



VARIAZIONE DEL TEMPO DI
 PRERISCALDO IN FUNZIONE DELLA
 TEMPERATURA ESTERNA
 THE TIME NEEDED FOR
 THE PRE-HEATING DEPENDS ON THE
 OUTSIDE TEMPERATURE

Schema di Collegamento - Circuit diagram



P/N	Q.ta Q.ty	Alimentazione Power Supply	Carico Max Max Load	Tensione di Preriscaldamento Preheating Time
-----	--------------	-------------------------------	------------------------	---

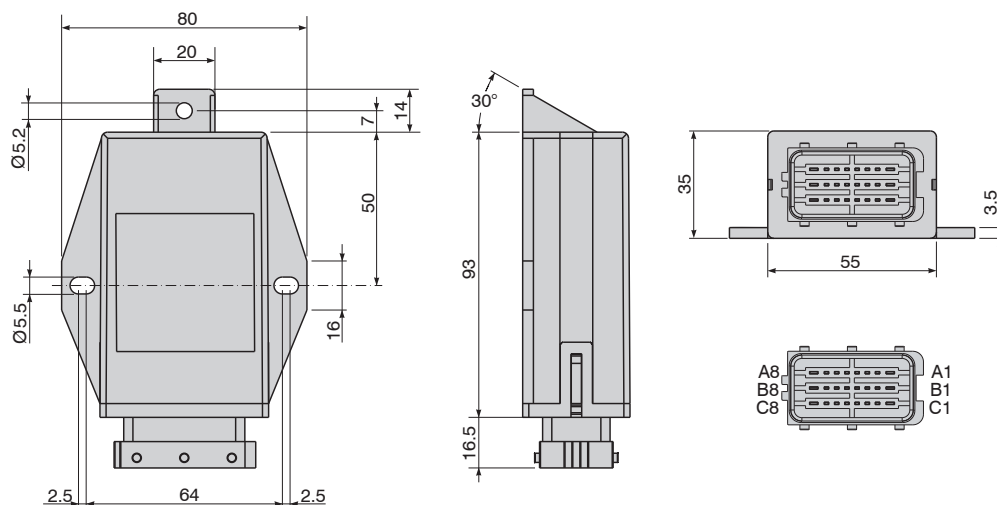
1003914 AV-32-0001	1	12V	-	7 sec
------------------------------	---	-----	---	-------

--	--	--	--	--

--	--	--	--	--

--	--	--	--	--

Trailer Lighting Control Unit



P/N	Q.ta Q.ty
1030672 34-0115-0000	1

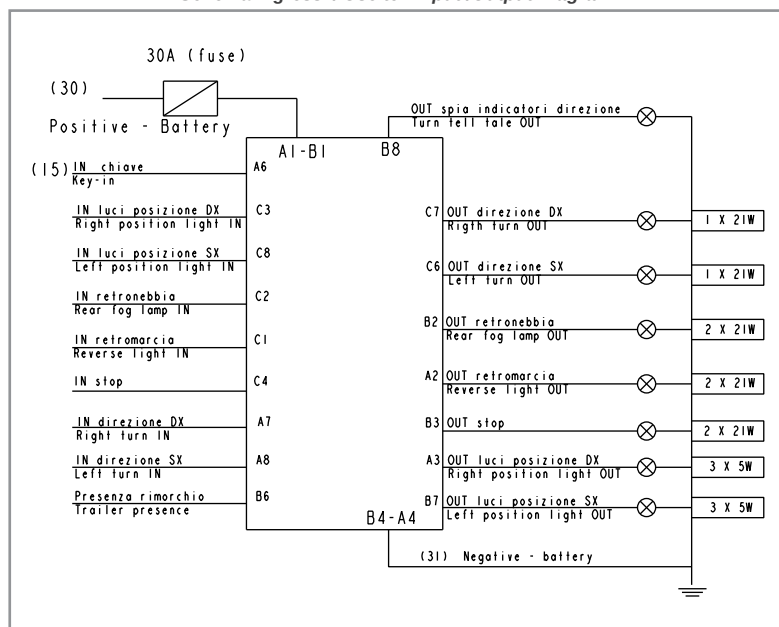


OPTIONAL KIT
Connettore controparte / Mating connector:
FRAMATONE SICMA-2 24 pins
(Includes: connector, rubber taps, slider, female terminals)

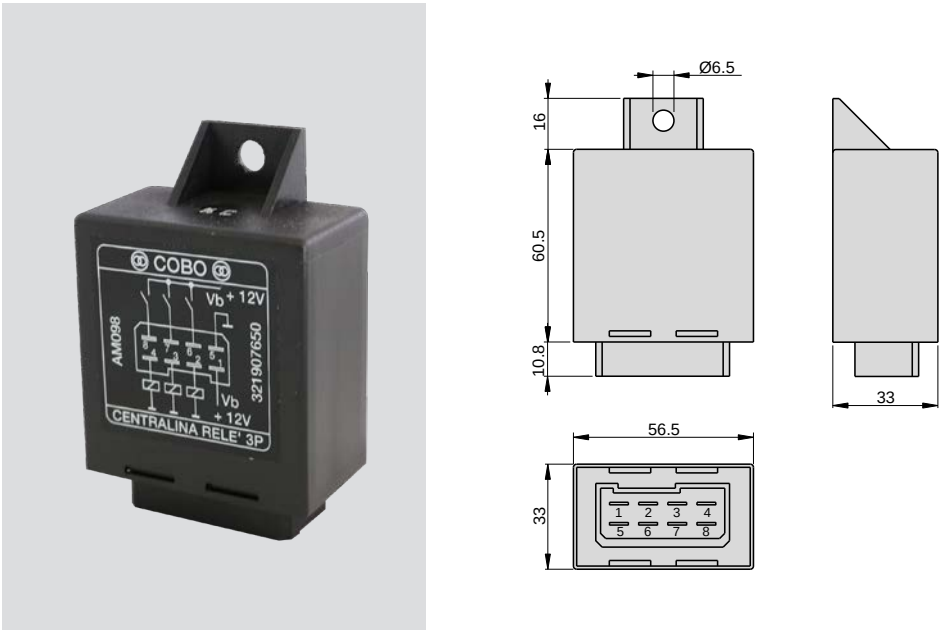
P/N	Q.ta Q.ty
1034736 46-12-010610	1

SPECIFICHE TECNICHE - Technical data	
TENSIONE NOMINALE Rated voltage	13,5V
LIMITI DI FUNZIONAMENTO Operating voltage	9 ÷ 16V
INVERSIONE DI POLARITÀ Reverse polarity	PROTECTED (with external 3A fuse)
LOAD DUMP Load dump	PROTECTED (5 pulse once a minute)
ASSORBIMENTO CORRENTE IN STAND-BY Stand-by current	100 µA max
TEMPERATURA DI FUNZIONAMENTO Operating temperature	-30°C ÷ 80°C
TEMPERATURA DI STOCCAGGIO Storage temperature	-40°C ÷ 90°C
GRADO DI PROTEZIONE Sealing degree	IP66

Schema Ingressi / Uscite - Input /Output Diagram



Control Unit Relay Module

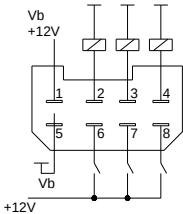


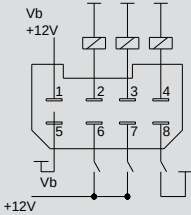
P/N	Q.ta Q.ty	Schema Elettrico Wiring Diagram
-----	--------------	------------------------------------

1094140
1030635

1
100

34-0076-0000



1030636 1030637 1 100 34-0077-0000		
--	--	---

SPECIFICHE TECNICHE - Technical data	
TENSIONE NOMINALE Rated voltage	12V
CARICO MAX Max load	3 x 20A
RELAYS	N. 3

