

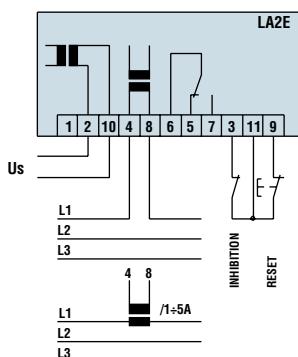
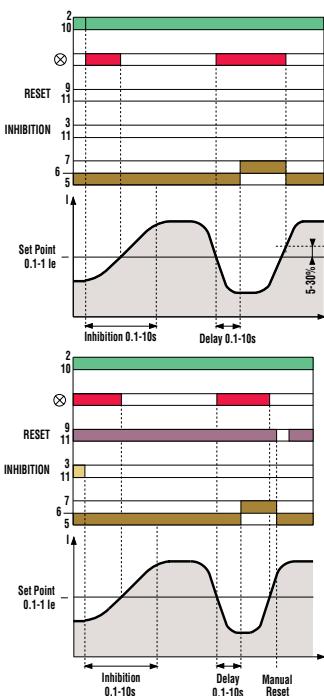


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LA2E

RELÈ AMPEROMETRICO MONOFASE DI MINIMA CORRENTE
 SINGLE-PHASE MINIMUM CURRENT RELAY
 1 PHASIGER STROMWÄCHTER FÜR MIN. STROM

**RELÈ DI PROTEZIONE****PROTECTIVE RELAYS****ÜBERWACHUNGSRELAIS****LA2E - LA3E - LAM****DESCRIZIONE**

Controllo amperometrico monofase di minima corrente.
 Misura diretta o tramite T.A.
 Contenitore estraibile zoccolato undecal.

REGOLAZIONI

- “Set-point Amp”: soglia di intervento (potenziometro) 0,1÷1 le
- “Set-point Sec”: tempo di intervento (potenziometro) 0,1÷10s
- “Inhibition Sec”: tempo di inibizione (potenziometro) 0,1÷10s
- “Isteresi”: isteresi al ripristino (trimmer-foro superiore) 5÷30%

INTERVENTO

Per $I < \text{Set-point Amp}$, dopo il ritardo “Set-point Sec.”
 L'intervento resta memorizzato se i morsetti 9-11 sono collegati (cavallotto o contatto NC).

RIPRISTINO

- automatico: quando $I > (\text{Set-point Amp} + \text{Isteresi})$
- manuale: ad apertura dell'eventuale contatto 9-11

STATO RELÈ

- normalmente disaccendato
- accendito all'intervento

INIBIZIONE

- all'alimentazione il dispositivo rimane inibito per la durata del tempo impostato.
- con alimentazione già presente il dispositivo può essere inibito collegando i morsetti 3-11 tramite contatto NC.
- All'apertura del contatto parte il tempo di inibizione, trascorso il quale il relè viene nuovamente abilitato.

LED ROSSO

- acceso quando $I < \text{Set-point Amp}$ oppure a relè accendito
- spento a relè disaccendito

CODICE DI ORDINAZIONE

31 LA2E 5 24	(5A-24VAC)
31 LA2E 5 110	(5A-110VAC)
31 LA2E 5 230	(5A-220...240VAC)

DESCRIPTION

Single-phase minimum current control
 Direct measurement (in series with the load) or by C.T.
 Plug-in 11-pin housing

ADJUSTMENTS

- “Set-point Amp”: minimum current threshold (potentiometer) 0,1÷1 le
- “Set-point Sec”: trip delay (potentiometer) 0,1-10s
- “Inhibition Sec”: inhibition time (potentiometer) 0,1-10s
- “Hysteresis”: reset hysteresis (trimmer through drilling in the top) 5-30%

TRIP

For $I < \text{Set-point Amp}$, after the time Set-point Sec.
 Tripping is stored if 9-11 terminals are connection/closed (jumper or NC contact).

RESET

- automatic for $I > (\text{Set-point Amp} + \text{hysteresis})$
- manual at opening of the eventual contact 9-11

RELAY STATE

- normally de-energized
- energized at tripping

INHIBITION

- at the feeding, the inhibition time always takes place.
- if the unit is already fed, it can be inhibited connecting terminals 3-11 by a NC contact.
- At contact opening the inhibition time begins.

LED (red)

- switched on when $I < \text{Set-point Amp}$ or when the relay is energized (alarm)
- switched off when the relay is de-energized (normal)

ORDER CODE

31 LA2E 5 24	(5A-24VAC)
31 LA2E 5 110	(5A-110VAC)
31 LA2E 5 230	(5A-220...240VAC)

BESCHREIBUNG

Stromüberwachung 1 phasig für min. Strom. Messung direkt oder durch Stromwandler. Herausnehmbarer Gehäuse mit 11 poligem Sockel.

EINSTELLUNGEN

- “Set-point Amp”: Ansprechbereich (Potentiometer) 0,1÷1le
- “Set-point Sec”: Ansprechzeit (Potentiometer) 0,1÷10s
- “Inhibition Sec”: Sperrzeit (Potentiometer) 0,1÷10s
- “Hysterese”: Hysteresefunktion (Trimmer-obere Loch) 5-30%

ANSPRECHEN

Bei $I < \text{Set-point Amp}$, nach Verzögerung “Set-point Sec.”
 Das Ansprechen bleibt gespeichert, wenn die Klemmen 9-11 verbunden sind (Schaltdraht oder Öffner)

RÜCKSTELLUNG

- automatisch: wenn $I > (\text{Set-point Amp} + \text{Hysterese})$
- manuell: bei Öffnen des eventuellen Kontakts 9-11

RELAISZUSTAND

- normalerweise entriegelt
- bei Ansprechen erregt

SPERRUNG

- bei Speisung bleibt die Vorrichtung für die Dauer der eingestellten Zeit gesperrt.
- bei schon bestehender Speisung kann die Vorrichtung gesperrt werden, indem die Klemmen 3-11 durch einen Öffner verbunden werden.

Bei Öffnen des Kontakts beginnt die Sperrzeit, nach deren Ablauf das Relais erneut aktiviert wird.

ROTE LED

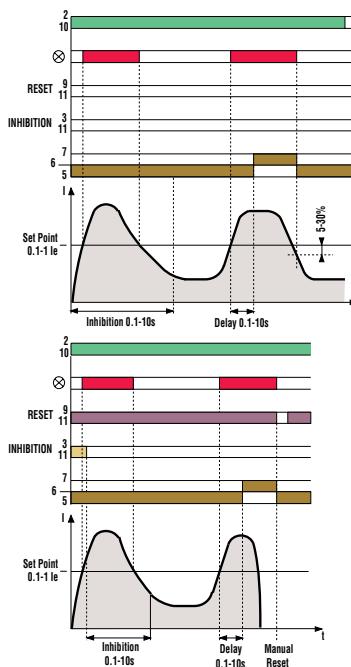
- ein, wenn $I < \text{Set-point Amp}$ oder bei erregtem Relais
- aus bei entriegtem Relais

BESTELLBEZEICHNUNG

31 LA2E 5 24	(5A-24VAC)
31 LA2E 5 110	(5A-110VAC)
31 LA2E 5 230	(5A-220...240VAC)

LA3E

RELÈ AMPEROMETRICO MONOFASE DI MASSIMA CORRENTE
SINGLE-PHASE MAXIMUM CURRENT RELAY
1 PHASIGER STROMWÄCHTER FÜR MAX. STROM



DESCRIZIONE

Controllo amperometrico monofase di massima corrente
Misura diretta o tramite T.A.
Contenitore estraibile zoccolato undecal.

REGOLAZIONI

"Set-point Amp": soglia di intervento (potenziometro) 0,1÷1 le
"Set-point Sec": tempo di intervento (potenziometro) 0,1÷10s
"Inhibition Sec": tempo di inibizione (potenziometro) 0,1÷10s
"Isteresi": isteresi al ripristino (trimmer-foro superiore) 5÷30%

INTERVENTO

Per $I > \text{Set-point Amp}$, dopo il ritardo "Set-point Sec."
L'intervento resta memorizzato se i morsetti 9-11 sono collegati (cavallotto o contatto NC).

RIPRISTINO

- automatico quando $I < (\text{Set-point Amp} - \text{Isteresi})$
- manuale ad apertura dell'eventuale contatto 9-11

STATO RELÈ

- normalmente disaccendito
- eccitato all'intervento

INIBIZIONE

- all'alimentazione il dispositivo rimane inibito per la durata del tempo impostato.
 - con alimentazione già presente il dispositivo può essere inibito collegando i morsetti 3-11 tramite contatto NC.
- All'apertura del contatto parte il tempo di inibizione, trascorso il quale il relè viene nuovamente abilitato.

LED ROSSO

- acceso quando $I > \text{Set-point Amp}$ oppure a relè eccitato
- spento a relè disaccendito

CODICE DI ORDINAZIONE

31 LA3E 5 24	(5A-24VAC)
31 LA3E 5 110	(5A-110VAC)
31 LA3E 5 230	(5A-220...240VAC)

DESCRIPTION

Single-phase maximum current control
Direct measurement (in series with the load)
or by C.T.
Plug-in 11-pin housing

ADJUSTMENTS

"Set-point Amp": maximum current threshold (potentiometer) 0.1÷1 le
"Set-point Sec": trip delay (potentiometer) 0.1-10s
"Inhibition Sec": inhibition time (potentiometer) 0.1-10s
"Hysteresis": reset hysteresis (trimmer-through drilling in the top) 5-30%

TRIP

For $I > \text{Set-point Amp}$, after the delay "Set-point Sec".

Tripping is stored if 9-11 terminals are connection/closed (jumper or NC contact)

RESET

- automatic for $I < (\text{Set-point Amp} - \text{hysteresis})$
- manual at opening of the eventual contact 9-11

RELAY STATE

- normally de-energised
- energised at tripping

INHIBITION

- at the feeding, the inhibition time always takes place.
 - if the unit is already fed it can be inhibited connecting terminals 3-11 by a NC contact.
- At contact opening, the inhibition time begins.

LED (red)

- switched on when $I > \text{Set-point Amp}$ or when the relay is energised (alarm)
- switched off when the relay is de-energised (normal)

ORDER CODE

31 LA3E 5 24	(5A-24VAC)
31 LA3E 5 110	(5A-110VAC)
31 LA3E 5 230	(5A-220...240VAC)

BESCHREIBUNG

Stromüberwachung 1 phasig für max. Strom. Messung direkt oder durch Stromwandler. Herausnehmbarer Gehäuse mit 11 poligem Sockel.

EINSTELLUNGEN

"Set-point Amp": Ansprechbereich (Potentiometer) 0,1÷1le
"Set-point Sec": Ansprechzeit (Potentiometer) 0,1÷10s
"Inhibition Sec": Sperrzeit (Potentiometer) 0,1÷10s
"Hysterese": Hysteresefunktion (Trimmer oberes Loch) 5-30%

ANSPRECHEN

Bei $I > \text{Set-point Amp}$, nach Verzögerung "Set-point Sec". Das Ansprechen bleibt gespeichert, wenn die Klemmen 9-11 verbunden sind (Schaltdraht oder Öffner)

RÜCKSTELLUNG

- automatisch: wenn $I < (\text{Set-point Amp} - \text{Hysteresis})$
- manuell: bei Öffnen des eventuellen Kontakts 9-11

RELAISZUSTAND

- normalerweise entriegelt
- bei Ansprechen erregt

SPERRUNG

- bei Speisung bleibt die Vorrichtung für die Dauer der eingestellten Zeit gesperrt.
 - bei schon bestehender Speisung kann die Vorrichtung gesperrt werden, indem die Klemmen 3-11 durch einen Öffner verbunden werden.
- Bei Öffnen des Kontakts beginnt die Sperrzeit, nach deren Ablauf das Relais erneut aktiviert wird.

ROTE LED

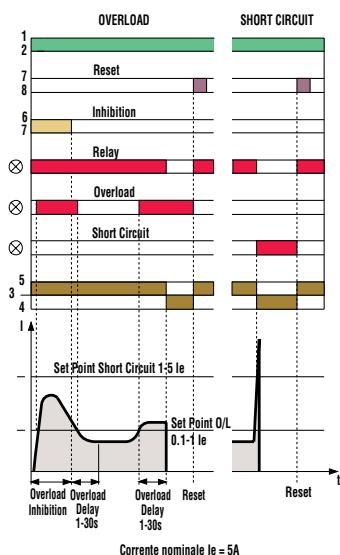
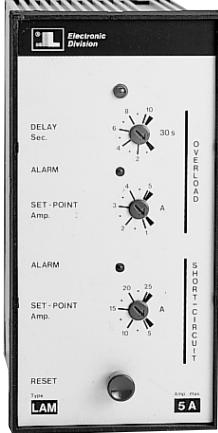
- ein, wenn $I > \text{Set-point Amp}$ oder bei erregtem Relais
- aus bei entriegtem Relais

BESTELLBEZEICHNUNG

31 LA3E 5 24	(5A-24VAC)
31 LA3E 5 110	(5A-110VAC)
31 LA3E 5 230	(5A-220...240VAC)

LAM

RELÈ AMPEROMETRICO TRIFASE DI MASSIMA CORRENTE
THREE-PHASE MAXIMUM CURRENT RELAY
3 PHASIGER STROMWÄCHTER FÜR MAX. STROM



DESCRIZIONE

Controllo amperometrico trifase di massima corrente (sovraffalto e corto-circuito); particolarmente adatto per gruppi eletrogeni di emergenza.
Misura diretta o tramite T.A.
Contenitore da incasso.

DESCRIPTION

Three-phase maximum current control (overload and short-circuit); generally used with three-phase generators (emergency generating sets)
Direct measurement: (in series with the load) or by C.T.
Flush mounting, noryl housing.

BESCHREIBUNG

Stromüberwachung 3 phasig für max. Strom (Überlast und Kurzschluß); besonders geeignet für Not-Elektroaggregate.
Messung direkt oder durch Stromwandler Einbaugehäuse.

REGOLAZIONI

"Set-point Overload": soglia sovraccarico (potenziometro) 1÷5A
"Delay": tempo di intervento sovraccarico (potenziometro) 1÷30s
"Set-point Short-circuit": soglia corto circuito (potenziometro) 5÷25A

ADJUSTMENTS

"Set-point Overload": overload threshold (potentiometer) 1÷5A
"Delay": overload trip delay (potentiometer) 1-30s
"Set-point Short-circuit": short-circuit threshold (potentiometer) 5-25A

INTERVENTO

Al verificarsi di una delle seguenti condizioni su una o più fasi
a) Sovraccarico
 I > Set-point Overload, dopo il tempo "Delay"
b) Corto circuito
 I > Set-point Short-circuit, istantaneo
L'intervento resta memorizzato in entrambi i casi.

TRIP

Whenever one of the following conditions occurs on one or more phases:
a) Overload
 I > Set-point Overload, after the time "Delay"
b) Short-circuit
 I > Set-point Short-circuit, instantaneous
Tripping is stored in both cases.

RIPRISTINO

Sempre manuale mediante contatto NA collegato ai morsetti 7-8 oppure mediante pulsante "Reset" sul fronte

RESET

Always manual at closing of a NO contact (terminals 7-8) or by push button on the front panel.

STATO RELÈ

- normalmente eccitato
- disaccendito all'intervento

RELAY STATE

- normally energised
- de-energised at tripping

INIBIZIONE

In fase di avviamento la protezione di sovraccarico può essere inibita mediante chiusura di un contatto collegato ai morsetti 6-7.

All'apertura del contatto inizia il controllo.

INHIBITION

During the starting phase, the overload protection can be inhibited by closing a NC contact connected to terminals 6-7. Opening the contact, the protection is enabled.

LED1 ROSSO

I > Set-point overload oppure ad intervento protezione sovraccarico

LED 1 (red)

Switched on for I > Set-point Overload or after an overload trip

LED2 ROSSO

Intervento protezione corto-circuito

LED 2 (red)

Switched on for short-circuit trip

LED3 VERDE

- acceso con relè eccitato (normale funzionamento)
- spento con relè disaccendito (condizione di allarme)

LED 3 (green)

- switched on when the relay is energised (normal)
- switched off when the relay is de-energised (alarm)

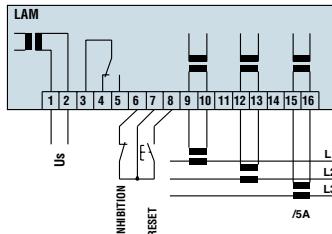
CODICE DI ORDINAZIONE

31 LAM 24	(24VAC)
31 LAM 110	(110...127VAC)
31 LAM 230	(220...240VAC)
31 LAM 400	(380...415VAC)

ORDER CODE

BESTELLBEZEICHNUNG

31 LAM 24	(24VAC)
31 LAM 110	(110...127VAC)
31 LAM 230	(220...240VAC)
31 LAM 400	(380...415VAC)



DATI TECNICI

TECHNISCHE DATEN

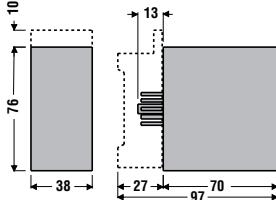
CIRCUITO DI CONTROLLO		CONTROL CIRCUIT		STEUERKREIS		LA2E		LA3E		LAM	
①	⑥B	①	⑥B	①	⑥B	①	⑥B	①	⑥B	①	⑥B
Corrente nominale (le)	Rated current (le)	Nennstrom (le)		5A		5A		5A		5A	
Frequenza nominale	Rated frequency	Nennfrequenz		50/60 Hz		50/60 Hz		50/60 Hz		50/60 Hz	
Sovraccaricabilità	Overload capacity	Überlastbarkeit									
Inserzione	Connection	Anschluß		direct (in series with the load) or by C.T.		direct (in series with the load) or by C.T.		direct (in series with the load) or by C.T.		direct or by C.T. ②	
Pegolazioni	Corrente di intervento	Einstellungen	Ansprechstrom	0.1-1 le		0.1-1 le		0.1-1 le		Overload: 0.1-1 le	
	Tempo di intervento	Trip delay	Ansprechzeit	0.1-10s		0.1-10s		0.1-10s		Short-circuit: 1-5 le	
Ripristino	Tempo di inibizione	Inhibition time				0.1-10s		0.1-10s		For overload 1-30s	
	Istresi al ripristino	Reset hysteresis				5-30%		5-30%		For short-circuit at load conn.: 50 ms ③	
						- Manual (NC contact)		- Automatic		For short-circuit with load already connected: 12 ms	
Errore di ripetibilità	Repeat accuracy	Rückstellung				1%		1%		- Manual (NC contact on the front)	
ALIMENTAZIONE AUXILIARIA	AUXILIARY SUPPLY	HILFSSPEISUNG								- Manual (NC contact on the front)	
Tensione ausiliaria (Usux)	Auxiliary supply voltage (Us)	Hilfsspannung (Usux)		24, 110, 230VAC		24, 110, 230VAC		24, 110, 230VAC		24, 110, 230, 400VAC	
Campo di funzionamento	Operational limits	Betriebsbereich		0.8-1.1 Us		0.8-1.1 Us		0.8-1.1 Us		0.8-1.15 Us	
Frequenza nominale	Rated frequency	Nennfrequenz		50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Potenza massima assorbita ④	Max power consumption ④	Max. Leistungsaufnahme ④		2.2VA		2.6VA		2.6VA		2.4VA	
RELÉ DI USCITA											
Nr. di relè	No. relays	Anzahl Relais		1		1		1		1	
Stato del relè	Relay state	Relaiszustand		normally de-energised		normally de-energised		normally de-energised		normally energised	
Composizione contatti	Contact configuration	Zusammensetzung der Kontakte				1 changeover		1 changeover		1 changeover	
Tensione nominale d'impiego	Rated operational voltage	Nennbetriebsspannung		250VAC		250VAC		250VAC		250VAC	
Massima tensione di commutazione	Max operational voltage	Max. Schaltspannung		380VAC		380VAC		380VAC		380VAC	
Corrente nominale termica (Ith)	Rated thermal current (Ith)	Thermischer Nennstrom (Ith)		5A		5A		5A		10A	
Corrente d'impiego	Rated operational current	Betriebsstrom		AC15 2A - 220VAC DC14.3A - 24VDC		AC15 2A - 220VAC DC14.3A - 24VDC		AC15 2A - 220VAC DC14.3A - 24VDC		AC15 2.5A - 220VAC DC14.5A - 24VDC	
Vita elettrica (con carico nominale)	Electrical life (with rated load)	Elektrische Lebensdauer (bei Nennlast)		3 x 10 ⁵ cycles		3 x 10 ⁵ cycles		3 x 10 ⁵ cycles		3 x 10 ⁵ cycles	
Vita meccanica	Mechanical life	Mechanische Lebensdauer		50 x 10 ⁶ cycles		50 x 10 ⁶ cycles		50 x 10 ⁶ cycles		50 x 10 ⁶ cycles	
Segnalazioni	Indications	Anzeigen		red LED - trip		red LED - trip		red LED - trip		green LED: relay state red LED: 1: over load red LED 2: short-circuit	
ISOLAMENTO (ingresso - uscita)											
Conformità alle norme	Reference standard	Bezugsnormen		IEC/EN 60255-6		IEC/EN 60255-6		IEC/EN 60255-6		IEC/EN 60255-6	
Tensione nominale di isolamento	Rated insulation voltage	Nennisolationsspannung		380V		380V		380V		380V	
Prova impulsiva (1.2/50 µs)	Impulse test (1.2/50 µs)	Impulsprüfung (1.2/50 µs)		5kV		5kV		5kV		5kV	
Prova di tenuta a freq. di eser. (50 Hz-60 s)	Dielectric test (50 Hz-60 s)	Haltepr. bei Bet. str. (50 Hz-60s)		2kV		2kV		2kV		2kV	
CONDIZIONI AMBIENTALI DI FUNZIONAMENTO											
Temperatura di rimpiego	Operating temperature	Betriebstemperatur		-10 to 60°C		-10 to 60°C		-10 to 60°C		-10 to 60°C	
Temperatura di stoccaggio	Storage temperature	Lagertemperatur		-30 to 80°C		-30 to 80°C		-30 to 80°C		-30 to 80°C	
CONTENITORE											
Materiale contenitore	Housing material	Material Gehäuse		self-extinguishing polycarbonate		self-extinguishing polycarbonate		self-extinguishing polycarbonate		self-extinguishing polycarbonate	
Grado di protezione	Degree of protection	Schutzgrad		IP30		IP30		IP30		IP30	
Montaggio	Mounting	Montage		11 pin socket		11 pin socket		11 pin socket		flush mounting	
Peso	Weight	Gewicht		0.250 kg		0.250 kg		0.250 kg		0.800 kg	

④ Valore riferito a 110VAC
Value referred to 110VAC
Wert bezogen auf 110VAC

② I trasformatori di corrente il cui rapporto di trasformazione è bene sia compreso tra 130% e 200% della corrente da controllare, devono essere con prestazione di almeno 6VA in classe 1.
The current transformers must have a burden of at least 6VA in class 1, and their transforming ratio between 130% and 200% the current to be controlled.
Die Stromwandler, deren Wandlerverhältnis zwischen 130% und 200% des zu überwachenden Stroms liegen sollte, müssen über eine Leistung von mindestens 6VA in Klasse 1 verfügen.
Auf Anfrage andere Werte zwischen 20 und 220ms.

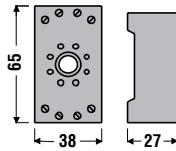
③ Su richiesta altri valori tra 20 e 220ms.
Internally adjusted. Other values between 20 and 220ms on request.
Auf Anfrage andere Werte zwischen 20 und 220 ms.

LA2E - LA3E

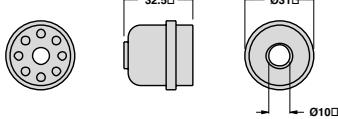


Dimensioni accessori
Dimensions accessories
Abmessungen Zubehörs

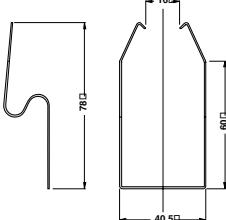
S11



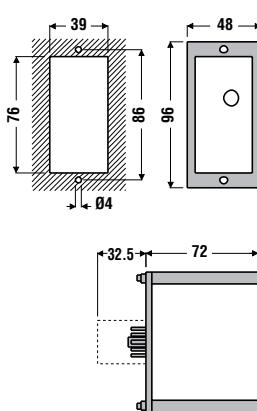
L48 P11



RE014



G216



DIMENSIONI E ACCESSORI PER LA2E-LA3E-LA4E

ACCESSORI - CODICI DI ORDINAZIONE

31 S11

Zoccolo undecal con attacchi a vite.
È in materiale termoplastico (Noryl)
particolarmente resistente alle correnti
pellicolari (secondo VDE 0303/1) e con
grado di isolamento C (VDE 0110).
Può essere montato a pannello oppure su
profilato DIN da 35mm. Peso 47g.

31 RE014

Molla in filo armonico AISI 302 atta ad
impedire il disinnesco del relè dello zoccolo.

31 L48 P11

Zoccolo volante undecal con attacchi a
saldare.

31 G216

Mostrina frontale, piastra inferiore, tirante,
viti, dadi e rondelle per il montaggio da
incasso del relè.

DIMENSIONS AND ACCESSORIES FOR LA2E-LA3E-LA4E

ACCESSORIES - ORDER CODES

31 S11

11-pin socket with screw terminals.
It is thermoplastic, particularly resistant to
tracking currents (according to VDE 0303/1)-
insulation class C (VDE0110).
The socket can be fixed on panel mounting
or DIN rail 35mm. Weight 47g.

31 RE014

Spring AISI 302 to prevent the disconnection
of the relay from the socket.

31 L48 P11

11-pin socket with soldering terminals

31 G216

Front frame, inferior locking plate, screws
stays, nuts and washers for flush mounting.

ABMESSUNGEN UND ZUBEHÖR FÜR LA2E-LA3E-LA4E

ZUBEHÖR - BESTELLBEZEICHNUNG

31 S11

11 poliger Sockel mit Schraubanschluß.
Aus thermoplastischem Material (Noryl) mit
hoher Stromfestigkeit (gemäß VDE 0303/1)
und mit Isolationsgrad C (VDE 0110).
Kann auf einer Tafel oder auf Schiene
35mm montiert werden. Gewicht 47g.

31 RE014

Feder aus Drahtsaite AISI 302 zur
Verhinderung des Auskuppelns des Relais
vom Sockel.

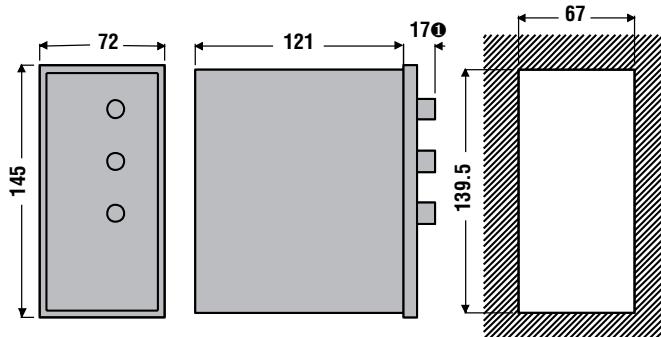
31 L48 P11

11 poliger loser Sockel mit Lötschluss.

31 G216

Vordere Abdeckung, untere Platte, Zugstab,
Schrauben, Muttern und Unterlegscheiben
für den Einbau des Relais.

LAM



● Con la protezione anteriore PARVT la quota diventa pari a 60 mm.
Relay depth increase 60 mm when PARVT cover is mounted.

ACCESSORI PER LAM - CODICE DI ORDINAZIONE

31 RE0052

Coppia di staffe.
Utilizzando gli accessori RE005/2, il
contenitore (in esecuzione base da incasso)
può essere trasformato per fissaggio da
interno quadro.

ACCESSORIES FOR LAM - ORDER CODES

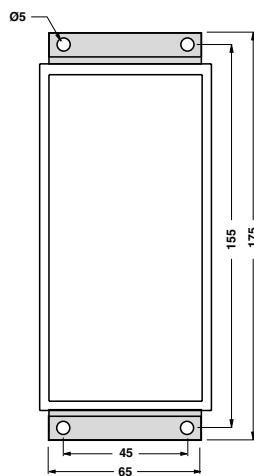
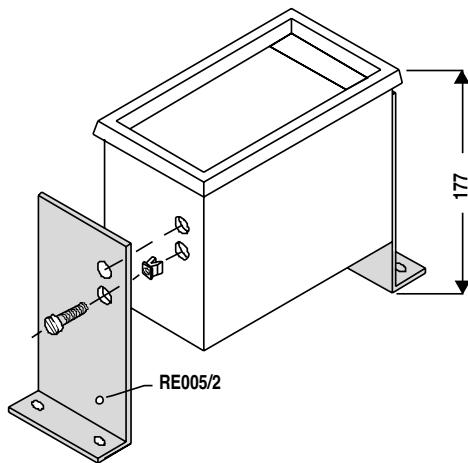
31 RE0052

Set of mounting brackets for fixing on
mounting plate.

ZUBEHÖR FÜR LAM - BESTELLBEZEICHNUNG

31 RE0052

Halterungen. Unter Verwendung des
Zubehörs RE005/2 kann das Gehäuse (in
Grundausführung für Einbau) zur
Befestigung im Inneren der Tafel
umgewandelt werden.



31 PARVT

Protezione anteriore in Lexan per LAM

31 PARVT

Lexan front cover for LAM

31 PARVT

Vorderer Schutz aus Lexan für LAM