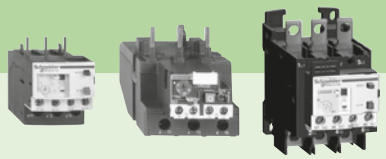
TeSys
Overload relays

Schneider Electric

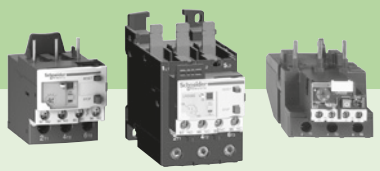
Thermal overload relays - For use with TeSys K contactors

Type of product	Range		Pages
Adjustable thermal overload relays For motors TeSys LRK	From 0.16 to 16 A		B11/2
Adjustable thermal overload relays For unbalanced loads TeSys LRK	From 0.8 to 16 A		B11/3

Thermal overload relays Class 10 A - For use with TeSys D contactors

Adjustable thermal overload relays For motors TeSys LRD	From 0.16 to 140 A		B11/4
Adjustable thermal overload relays For unbalanced loads TeSys LRD	From 0.16 to 140 A		B11/4

Thermal overload relays Class 20 - For use with TeSys D contactors

Adjustable thermal overload relays For motors TeSys LRD	From 0.63 to 80 A		B11/6
Adjustable thermal overload relays For unbalanced loads TeSys LRD	From 0.63 to 32 A		B11/6

Electronic thermal overload relays - For use with TeSys D contactors

Adjustable electronic overload relay, Multi-class, multi-scale TeSys LR9D	From 0.1 to 150 A		B11/10

Electronic thermal overload relays - For use with TeSys F contactors

Compensated and differential overload relays, with or without alarm TeSys LR9F	From 50 to 630 A		B11/11

Single pole magnetic over current relays

Latching or non latching overload relays TeSys RM1	From 1.15 to 630 A		B11/15

Thermistor-type protection units – For use detection of motor overheating

Protection units and PTC probes, with or without fault memory TeSys LT3	From 90 to 170 °C		B11/17

Electronic over current relays - For machine protection

Predefined or adjustable starting times, Manual reset	From 1.5 to 34 A		B11/19
Automatic, electric or manual reset	From 0.5 to 50 A		B11/19

Overload relays

Thermal overload relays for TeSys K contactors - adjustable from 0.11 to 16 A Class 10 A

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LR2K0307

3-pole relays with screw clamp terminals

These overload relays are designed for the protection of motors. They are compensated and phase failure sensitive. Resetting can either be manual or automatic.
Direct mounting: under the contactor for versions with screw clamp terminals only; pre-wired terminals, see pages B11/28 and B11/30.
Separate mounting: using terminal block LA7K0064 (see below).
On the front face of the overload relay:
- selection of reset mode: Manual (marked H) or Automatic (marked A),
- red pushbutton: Trip Test function,
- blue pushbutton: Stop and manual Reset,
- yellow trip flag indicator: overload relay tripped.

Protection by magnetic circuit breaker GV2LE, see pages A6/11 and A6/20.

Class 10 A (the standard specifies a tripping time of between 2 and 10 seconds at 7.2 In)

Relay setting range	Fuses to be used with selected relay Maximum rating Type			Reference
	aM	gG	BS88	
A	A	A	A	
0.11…0.16	0.25	0.5	–	**LR2K0301**
0.16…0.23	0.25	0.5	–	**LR2K0302**
0.23…0.36	0.5	1	–	**LR2K0303**
0.36…0.54	1	1.6	–	**LR2K0304**
0.54…0.8	1	2	–	**LR2K0305**
0.8…1.2	2	4	6	**LR2K0306**
1.2…1.8	2	6	6	**LR2K0307**
1.8…2.6	4	8	10	**LR2K0308**
2.6…3.7	4	10	16	**LR2K0310**
3.7…5.5	6	16	16	**LR2K0312**
5.5…8	8	20	20	**LR2K0314**
8…11.5	10	25	20	**LR2K0316**
10…14	16	32	25	**LR2K0321**
12…16	20	40	32	**LR2K0322**

Overload relays for unbalanced loads

Class 10 A: to order, replace the prefix **LR2** by **LR7** in the references selected from above (only applicable to overload relays **LR2K0305** to **LR2K0322**).
Example: **LR7K0308**.

Characteristics: pages B11/28 and B11/30
Dimensions: page B11/30
Schemes: page B11/30

Overload relays

Thermal overload relays for TeSys K contactors - adjustable from 0.11 to 16 A Class 10 A

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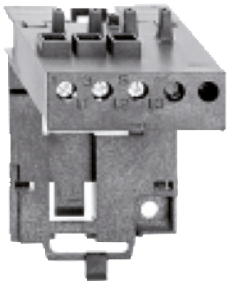


LA7K0064

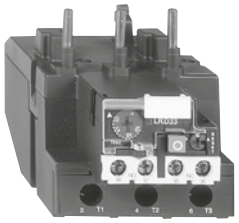
Accessory		
Description	**Type of connection**	**Reference**
Terminal block for separate clip-on mounting of the overload relay on 35 mm ⎓ rail	Screw clamp	**LA7K0064**

Overload relays

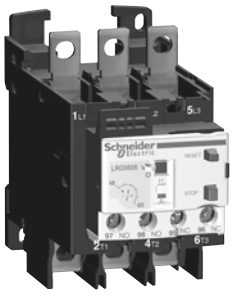
Thermal overload relays for TeSys D contactors - Class 10 A

LRD●●

LRD3●●



LRD33●●



LRD3●●6

3-pole differential thermal overload relays for screw clamp connectors and lugs
for use with fuses or magnetic circuit breakers GV2L and GV3L

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.

Relay setting range (A)	Fuses to be used with selected relay aM (A)	gG (A)	BS88 (A)	For use with contactor LC1	Reference	Weight kg
Class 10 A (1) for connection by screw clamp terminals or connectors						
0.10…0.16	0.25	2	–	D09…D38	**LRD01**	0.124
0.16…0.25	0.5	2	–	D09…D38	**LRD02**	0.124
0.25…0.40	1	2	–	D09…D38	**LRD03**	0.124
0.40…0.63	1	2	–	D09…D38	**LRD04**	0.124
0.63…1	2	4	–	D09…D38	**LRD05**	0.124
1…1.6	2	4	6	D09…D38	**LRD06**	0.124
1.6…2.5	4	6	10	D09…D38	**LRD07**	0.124
2.5…4	6	10	16	D09…D38	**LRD08**	0.124
4…6	8	16	16	D09…D38	**LRD10**	0.124
5.5…8	12	20	20	D09…D38	**LRD12**	0.124
7…10	12	20	20	D09…D38	**LRD14**	0.124
9…13	16	25	25	D12…D38	**LRD16**	0.124
12…18	20	35	32	D18…D38	**LRD21**	0.124
16…24	25	50	50	D25…D38	**LRD22**	0.124
23…32	40	63	63	D25…D38	**LRD32**	0.124
30…38	40	80	80	D32 and D38	**LRD35**	0.124
Class 10 A (1) for connection by EverLink® BTR screw connectors (3)						
9…13	16	25	25	D40A…D65A	**LRD313**	0.375
12…18	20	32	35	D40A…D65A	**LRD318**	0.375
17…25	25	50	50	D40A…D65A	**LRD325**	0.375
23…32	40	63	63	D40A…D65A	**LRD332**	0.375
30…40	40	80	80	D40A…D65A	**LRD340**	0.375
37…50	63	100	100	D40A…D65A	**LRD350**	0.375
48…65	63	100	100	D50A and D65A	**LRD365**	0.375
62...80	80	125	125	D80A	**LRD380** (4)	0.375
Class 10 A (1) for connection by screw clamp terminals or connectors						
17…25	25	50	50	D80 and D95	**LRD3322**	0.510
23…32	40	63	63	D80 and D95	**LRD3353**	0.510
30…40	40	100	80	D80 and D95	**LRD3355**	0.510
37…50	63	100	100	D80 and D95	**LRD3357**	0.510
48…65	63	100	100	D80 and D95	**LRD3359**	0.510
55…70	80	125	125	D80 and D95	**LRD3361**	0.510
63…80	80	125	125	D80 and D95	**LRD3363**	0.510
80…104	100	160	160	D80 and D95	**LRD3365**	0.510
80…104	125	200	160	D115 and D150	**LRD4365**	0.900
95…120	125	200	200	D115 and D150	**LRD4367**	0.900
110…140	160	250	200	D150	**LRD4369**	0.900
80…104	100	160	160	(2)	**LRD33656**	1.000
95…120	125	200	200	(2)	**LRD33676**	1.000
110…140	160	250	200	(2)	**LRD33696**	1.000

Class 10 A (1) for connection by lugs

Select the appropriate overload relay with screw clamp terminals or connectors from the table above and add one of the following suffixes:

- figure **6** for relays LRD01 to LRD35 and relays LRD313 to LRD380 (4).
- **A66** for relays LRD3322 to LRD3363.

Relays LRD43●● are suitable, as standard, for use with lug-clamps.

Thermal overload relays for use with unbalanced loads

Class 10 A (1) for connection by screw clamp terminals or lugs

In the references selected above, change the prefix **LRD** (except **LRD43●●**) to **LR3D**.
Example: **LRD01** becomes **LR3D01**.
Example with **Ever**Link®connectors: **LRD340** becomes **LR3D340**.
Example with lugs: **LRD3406** becomes **LR3D3406**.

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R: class 10 A: between 2 and 10 seconds.
(2) Independent mounting of the contactor.
*(3) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference **LADALLEN4**, see page B8/29).*
(4) LRD380 available end 2017

Characteristics: pages B11/32 to B11/34
Dimensions: pages B11/35 to B11/37
Schemes: page B11/37

Overload relays

Thermal overload relays for TeSys D contactors - Class 10 A

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LRD●●3

3-pole differential thermal overload relays for spring terminals
for use with fuses or magnetic circuit breakers GV2L and GV3L

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.

Relay setting range (A)	Fuses to be used with selected relay			For use with contactor LC1	Reference
	aM (A)	gG (A)	BS88 (A)		
Classes 10 A (1) for connection by spring terminals (only for direct mounting beneath the contactor)					
0.10…0.16	0.25	2	–	D09…D38	**LRD013**
0.16…0.25	0.5	2	–	D09…D38	**LRD023**
0.25…0.40	1	2	–	D09…D38	**LRD033**
0.40…0.63	1	2	–	D09…D38	**LRD043**
0.63…1	2	4	–	D09…D38	**LRD053**
1…1.6	2	4	6	D09…D38	**LRD063**
1.6…2.5	4	6	10	D09…D38	**LRD073**
2.5…4	6	10	16	D09…D38	**LRD083**
4…6	8	16	16	D09…D38	**LRD103**
5.5…8	12	20	20	D09…D38	**LRD123**
7…10	12	20	20	D09…D38	**LRD143**
9…13	16	25	25	D12…D38	**LRD163**
12…18	20	35	32	D18…D38	**LRD213**
16…24	25	50	50	D25…D38	**LRD223**
Class 10 A with connection by EverLink® BTR screw connectors (2) and control by spring terminals					
9…13	16	25	25	D40A…D65A	**LRD3133**
12…18	20	32	35	D40A…D65A	**LRD3183**
17…25	25	50	50	D40A…D65A	**LRD3253**
23…32	40	63	63	D40A…D65A	**LRD3323**
30…40	40	80	80	D40A…D65A	**LRD3403**
37…50	63	100	100	D40A…D65A	**LRD3503**
48…65	63	100	100	D50A and D65A	**LRD3653**
62...80	80	125	125	D80A	**LRD3803** (3)

Thermal overload relays for use with unbalanced loads
Classes 10 A (1) for connection by BTR screw connectors (2) and control by spring terminals

In the references selected above, replace **LRD3** with **LR3D3**.
Example: **LRD3653** becomes **LR3D3653**.

Thermal overload relays for use on 1000 V supplies
Classes 10 A (1) for connection by screw clamp terminals

For relays LRD06 to LRD35 only, for an operating voltage of 1000 V, and only for independent mounting, the reference becomes **LRD33●●A66**.
Order an **LA7D3064** terminal block separately, see page B11/9.

Standard relay	Relay for 1000 V network
LRD06	LRD3306A66
LRD07	LRD3307A66
LRD08	LRD3308A66
LRD10	LRD3310A66
LRD12	LRD3312A66
LRD14	LRD3314A66
LRD16	LRD3316A66
LRD21	LRD3321A66
LRD22	LRD3322A66
LRD32	LRD3353A66
LRD35	LRD3355A66

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R: class 10 A: between 2 and 10 seconds.
*(2) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference **LADALLEN4**, see page B8/29).*
(3) LRD3803 available end 2017.

Overload relays

Characteristics: pages B11/32 to B11/34
Dimensions: pages B11/35 to B11/37
Schemes: page B11/37

Overload relays

Thermal overload relay for TeSys D contactors - Class 20

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LRD04L...LRD32L

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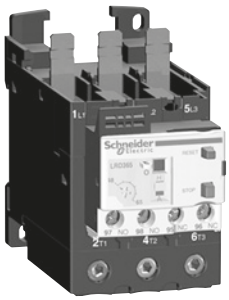

LRD3●●L

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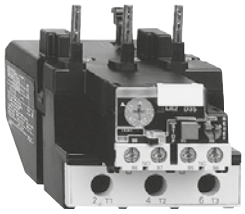

LR2D35●●

3-pole differential thermal overload relays for screw clamp connectors and lugs
for use with fuses or magnetic circuit breakers GV2L and GV3L

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.

Relay setting range (A)	Fuses to be used with selected relay aM (A)	gG (A)	BS88 (A)	For use with contactor LC1	Reference
Classes 20 (1) for connection by screw clamp terminals					
0.4...0.63	1	2	-	D09…D38	**LRD04L**
0.63...1	2	4	-	D09…D38	**LRD05L**
1...1.6	2	4	6	D09…D38	**LRD06L**
1.6...2.5	4	6	10	D09…D38	**LRD07L**
2.5...4	6	10	16	D09…D38	**LRD08L**
4...6	8	16	16	D09…D38	**LRD10L**
5.5...8	12	20	20	D09…D38	**LRD12L**
7...10	12	20	20	D09…D38	**LRD14L**
9...13	16	25	25	D12…D38	**LRD16L**
12...18	20	35	32	D18…D38	**LRD21L**
17...24	25	50	50	D25…D38	**LRD22L**
23...32	40	63	63	D25…D38	**LRD32L**
Class 20 (1) for connection by EverLink® BTR screw connectors (2)					
9…13	20	32	35	D40A…D65A	**LRD313L**
12…18	25	40	40	D40A…D65A	**LRD318L**
17…25	32	50	50	D40A…D65A	**LRD325L**
23…32	40	63	63	D40A…D65A	**LRD332L**
30…40	50	80	80	D40A…D65A	**LRD340L**
37…50	63	100	100	D40A…D65A	**LRD350L**
48…65	80	125	125	D50A and D65A	**LRD365L**
Classes 20 (1) for connection by screw clamp terminals					
17…25	32	50	50	D80 and D95	**LR2D3522**
23…32	40	63	63	D80 and D95	**LR2D3553**
30…40	40	100	80	D80 and D95	**LR2D3555**
37…50	63	100	100	D80 and D95	**LR2D3557**
48…65	80	125	100	D80 and D95	**LR2D3559**
55…70	100	125	125	D80 and D95	**LR2D3561**
63…80	100	160	125	D80 and D95	**LR2D3563**

Class 20 (1) for connection by lugs

For relays LRD04L to LRD32L and relays LRD313L to LRD365L, select the appropriate overload relay with screw clamp terminals or connectors from the table above and add the suffixe **6**.
Example: **LRD04L** becomes **LRD04L6**.

Thermal overload relays for use with unbalanced loads

Class 20 (1) for connection by screw clamp terminals or lugs

For relays LRD04L to LRD32L and relays LR2D3522 to LR2D3563, select the appropriate overload relay with screw clamp terminals or connectors from the table above and change the prefix LRD or LR2D to **LR3D**.
Example: **LRD04L** becomes **LR3D04L**.

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R:
class 20: between 6 and 20 seconds
*(2) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference **LADALLEN4**, see page B8/29).*

Overload relays

Overload relays

Thermal overload relay for TeSys D contactors - Class 20

3-pole differential thermal overload relays for screw clamp connectors and springs
for use with fuses or magnetic circuit breakers GV2L and GV3L

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.

Relay setting range (A)	Fuses to be used with selected relay			For mounting beneath contactor LC1	Reference
	aM (A)	gG (A)	BS88 (A)		
Class 20 (1) with connection by EverLink® BTR screw connectors (2) and control by spring terminals					
9…13	20	32	35	D40A…D65A	**LRD313L3**
12…18	25	40	40	D40A…D65A	**LRD318L3**
17…25	32	50	50	D40A…D65A	**LRD325L3**
23…32	40	63	63	D40A…D65A	**LRD332L3**
30…40	50	80	80	D40A…D65A	**LRD340L3**
37…50	63	100	100	D40A…D65A	**LRD350L3**
48…65	80	125	125	D50A and D65A	**LRD365L3**

3-pole differential thermal overload relays for bars and connectors
for use with fuses or magnetic circuit breakers NSX

- Compensated relays, with relay trip indicator
- for a.c.
- for direct mounting on contactor or independent mounting (3).

Relay setting range (A)	Fuses to be used with selected relay		For mounting beneath contactor LC1	Reference
	aM (A)	gG (A)		
Classes 10 or 10A (1) for connection using bars or connectors				
60…100	100	160	D115 and D150	**LR9D5367**
90…150	160	250	D115 and D150	**LR9D5369**
Classes 20 (1) for connection using bars or connectors				
60…100	125	160	D115 and D150	**LR9D5567**
90…150	200	250	D115 and D150	**LR9D5569**

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R:
class 10: between 4 and 10 seconds,
class 10 A: between 2 and 10 seconds,
class 20: between 6 and 20 seconds
*(2) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference **LADALLEN4**, see page B8/29).*
(3) Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page B8/28).

Other versions

Thermal overload relays for resistive circuits in category AC-1.
Please consult your Regional Sales Office.

Characteristics: pages B11/32 to B11/34, pages B11/38 to B11/39
Dimensions: pages B11/35 to B11/37 and B11/42
Schemes: pages B11/39 and B11/43

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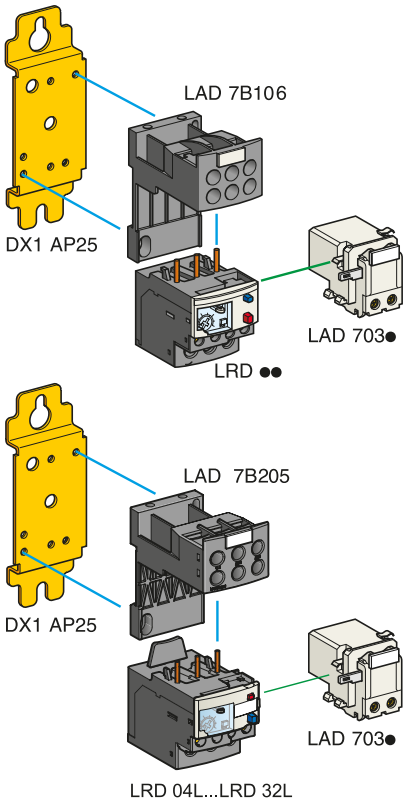
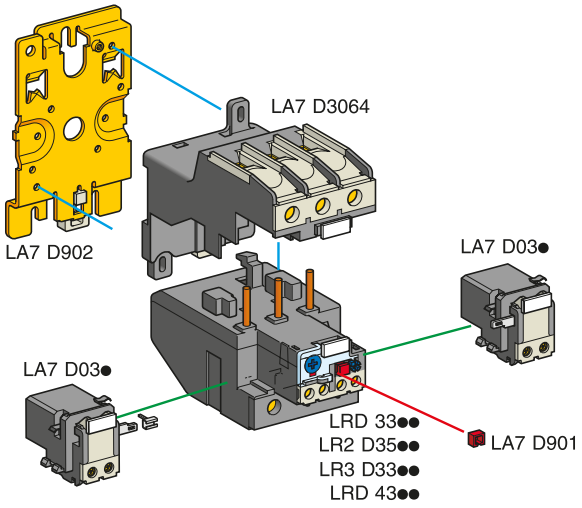
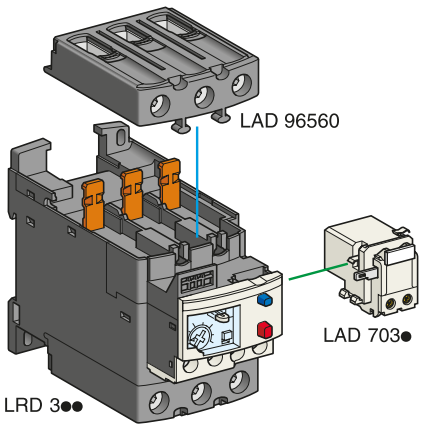
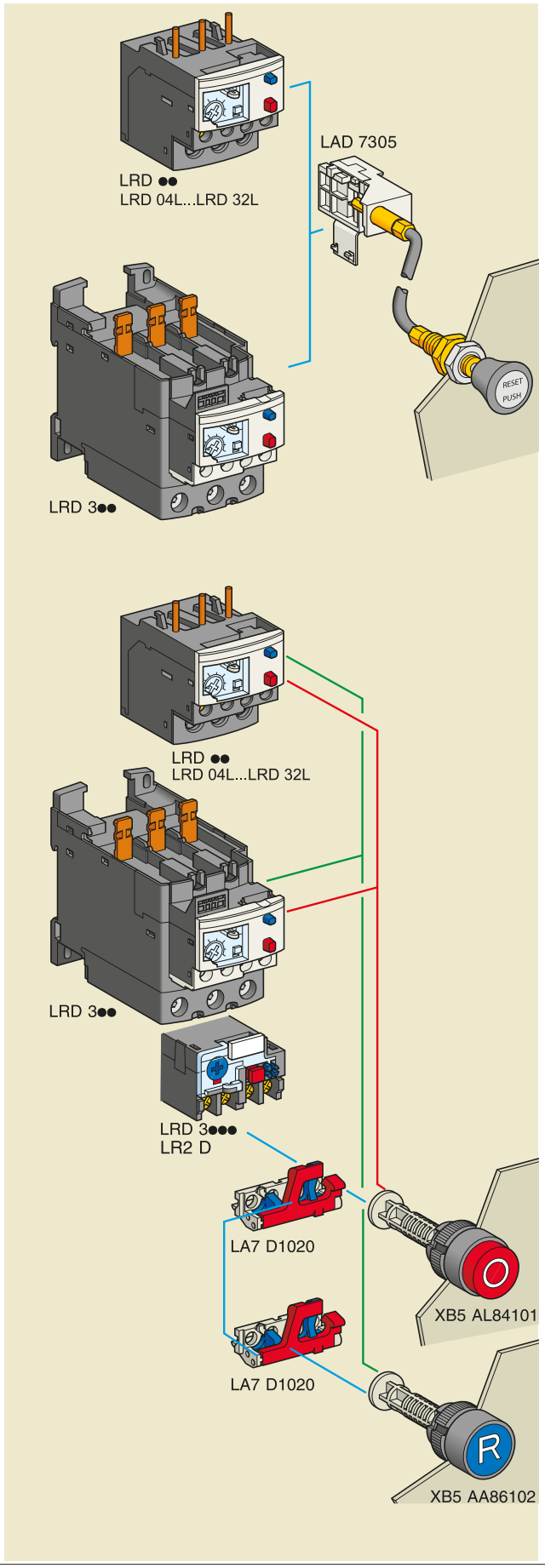


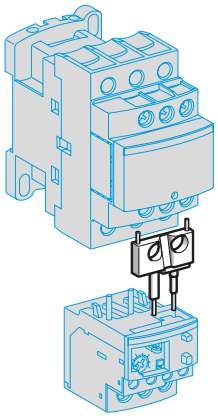




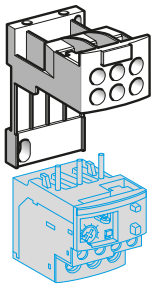


Overload relays

Thermal overload relays for TeSys D contactors - Accessories

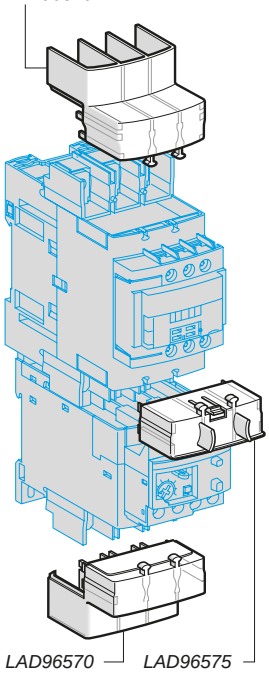


LAD7C●



LAD7B106

LAD96570



LAD96570 *LAD96575*

Separate components for relays

Description	For use with	Sold in lots of	Unit reference
Pre-wiring kit allowing direct connection of the N/C contact of relay LRD01…35 or LR3D01…D35 to the contactor	LC1D09…D18	10	**LAD7C1** (1)
	LC1D25…D38	10	**LAD7C2** (1)
Terminal block (2) for clip-on mounting on 35 mm rail (AM1DP200) or screw fixing; for fixing centres, see pages B11/35 to B11/37	LRD01…35 and LR3D01…D35	1	**LAD7B106**
	LRD04L...LRD32L, LR3D04L...LR3D32L	1	**LAD7B205**
	LRD43●●, LRD33●●●, LR3D33●●●, LR2D35●●	1	**LA7D3064** (3)
EverLink® terminal block for independent mounting	LRD3●●, LRD3●●L and LR3D3●●	1	**LAD96560**
Size 4 Allen key, insulated, 1000 V	LRD3●●, LRD3●●L and LR3D3●●	5	**LADALLEN4**
Terminal block adapter for mounting a relay beneath an LC1D115 or D150 contactor	LRD3●●, LR3D3●●●, LRD35●●	1	**LA7D3058** (3)
Mounting plates (4) for screw fixing on 110 mm centres	LRD01…35, LR3D01…D35, LRD04L... LRD32L, LR3D04L...LR3D32L	10	**DX1AP25**
	LRD3●●●, LR3D3●●●, LR2D35●●	1	**LA7D902**
Marker holders, snap-in 8 x 18 mm	LRD3●●	100	**LAD90**
	All relays except LRD01…35, LRD04L...32L, LR3D04L...D32L LR3D01…D35, LRD3●●, LRD3●●L and LR3D3●●	100	**LA7D903**
Bag of 400 blank legends (self-adhesive, 7 x 16 mm)	All relays	1	**LA9D91**
Stop button locking device	All relays except LRD01…35, LRD04L...32L, LR3D04L...D32L LR3D01…D35, LR9 D and LRD313…LRD380 (9)	10	**LA7D901**
Remote Stop or electrical reset device (5)	LRD01…35, LR3D01…D35, LRD04L...32L, LR3D04L...D32L and LRD313…LRD380 (9)	1	**LAD703●** (6) (7)
Remote tripping or electrical reset device (5)	All relays except LRD01…35, LRD04L...32L, LR3D04L...D32L, LR3D01…D35, LRD3●●, LRD3●●L and LR3D3●●	1	**LA7D03●** (6)
Block of insulated terminals	LR9 D	2	**LA9F103** (7)
IP 20 cover for lug type terminals for independent mounting	LRD3136…3806 (9)	1	**LAD96570**
IP 20 cover for lug type terminals for mounting with contactor LC1D40A6…D65A6	LRD3136…3806 (9)	1	**LAD96575**
Terminal block for lug type terminals for independent mounting	LRD3136…3806 (9)	1	**LAD96566**

Remote control

"Reset" function

Description	For use with	Sold in lots of	Unit reference
By flexible cable (length = 0.5 m)	LRD01…35, LR3D01…D35, LR3D04L... D32L and LRD313…LRD380 (9), LRD04L...LRD32L	1	**LAD7305** (8)
	All relays except LRD01...35, LR3D01...D35, LRD3●●, LRD04L...32L, LR3D04L...D32L, LRD3●●L and LR3D3●●	1	**LA7D305**

"Stop" and/or "Reset" functions

The terminal protection shroud must be removed and the following 3 products must be ordered separately:

Adapter for door mounting	LRD33●●, LR2D		1	**LA7D1020**
Operating heads for spring return pushbutton	Stop	All relays	1	**XB5AL84101**
	Reset	All relays	1	**XB5AA86102**

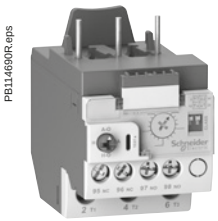
(1) These pre-wiring kits cannot be used with reversing contactors.
(2) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open, "ready-to-tighten" position.
*(3) To order a terminal block for connection by lugs, the reference becomes **LA7D30646**.*
(4) Remember to order the terminal block corresponding to the type of relay.
*(5) The time for which the coil of remote tripping or electrical resetting device **LA7D03** or **LAD703** can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time; maximum pulse duration 20 s with a rest time of 300 s. Minimum pulse time: 200 ms.*
(6) Reference to be completed by adding the code indicating the control circuit voltage.
Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volts	12	24	48	96	110	220/230	380/400	415/440
50/60 Hz	–	B	E	–	F	M	Q	N
Consumption, inrush and sealed: < 100 VA								
---	J	B	E	DD	F	M	–	–
Consumption, inrush and sealed: < 100 W.								

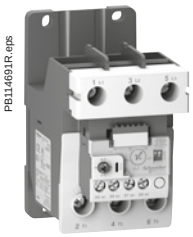
(7) Only one terminal block can be mounted below LR9D.
(8) Not compatible with 3-pole relays fitted with spring terminals.
(9) LRD380, LRD3806 available end 2017.

Overload relays

Electronic thermal overload relays for TeSys D contactors

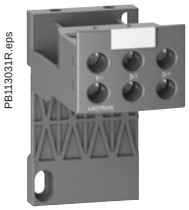


LR9D0● and LR9D32

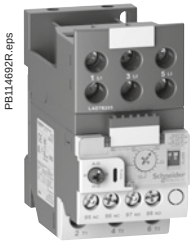


LR9D110S

LR9D5597



LAD7B205



LAD7B205 mounted on LR9D01

LR9D67

Electronic thermal overload relays
For use with fuses or magnetic circuit breakers

- compensated relays, with relay trip indicator,
- for a.c.,
- for direct mounting on contactor or independent mounting (1).

Relay setting range	Fuses to be used with selected relay		For direct mounting beneath contactor LC1	Reference
	aM	gG		
A	A	A		
Classes 5.10.20.30 (1) selectable for direct connection on TeSys D contactors or connection using connectors				
0.1...0.5			D09…D38	**LR9D01**
0.4...2			D09…D38	**LR9D02**
1.6…8			D09…D38	**LR9D08**
6.4…32			D09…D38	**LR9D32**
Classes 5.10.20.30 (1) selectable for connection using connectors				
22…110				**LR9D110S**
Classes 10 or 10 A (1) for connection using bars or connectors				
60…100	100	160	D115…D150	**LR9D5367**
90…150	160	250	D115…D150	**LR9D5369**
Classes 20 (1) for connection using bars or connectors				
60…100	125	160	D115…D150	**LR9D5567**
90…150	200	250	D115…D150	**LR9D5569**

Separate components for relays

Description	For use with	Sold in lots of	Unit reference
Terminal block (2) For clips-on mounting on 35 mm rails (AM1DP200) or screws fixing; for fixing centres, see pages B11/35 to B11/37	LR9D01, LR9D02, LR9D08, LR9D32	1	**LAD7B205**

Electronic overload relays for balanced or unbalanced loads

Relay setting range	Fuses to be used with selected relay		For direct mounting beneath contactor LC1	Reference
	aM	gG		
A	A	A		
Classes 10 or 20 (1) selectable for direct connection using bars or connectors				
60…100	100	160	D115…D150	**LR9D67**
90…150	160	250	D115…D150	**LR9D69**

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R:
class 5: between 0.5 and 5 seconds
class 10: between 4 and 10 seconds
class 10 A: between 2 and 10 seconds
class 20: between 6 and 20 seconds
class 30: between 9 and 30 seconds
(2) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open, "ready-to-tighten" position.
(3) Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page B8/20).

Overload relays

Overload relays

Electronic thermal overload relays for TeSys F contactors

LR9F53●●

LR9F73●●

Compensated and differential overload relays

Thermal overload relays:
- compensated and differential,
- with relay trip indicator,
- for a.c.,
- for direct mounting on contactor or independent mounting (1).

Relay setting range	Fuses to be used with selected relay		For direct mounting beneath contactor LC1	Reference	Weight
	aM	gG			
A	A	A			kg
Class 10 (2)					
30…50	50	80	F115…F185	**LR9F5357**	0.885
48…80	80	125	F115…F185	**LR9F5363**	0.900
60…100	100	200	F115…F185	**LR9F5367**	0.900
90…150	160	250	F115…F185	**LR9F5369**	0.885
132…220	250	315	F185…F265	**LR9F5371**	0.950
200…330	400	500	F225…F500	**LR9F7375**	2.320
300…500	500	800	F225…F500	**LR9F7379**	2.320
380…630	630	800	F400…F630 and F800	**LR9F7381**	4.160
Class 20 (2)					
30…50	50	80	F115…F185	**LR9F5557**	0.885
48…80	80	125	F115…F185	**LR9F5563**	0.900
60…100	100	200	F115…F185	**LR9F5567**	0.900
90…150	160	250	F115…F185	**LR9F5569**	0.885
132…220	250	315	F185…F400	**LR9F5571**	0.950
200…330	400	500	F225…F500	**LR9F7575**	2.320
300…500	500	800	F225…F500	**LR9F7579**	2.320
380…630	630	800	F400…F630 and F800	**LR9F7581**	4.160

*(1) When mounting overload relays **LR9F5●57**...**LR9F5●71** directly beneath the contactor, supporting the relays with a mounting plate is recommended (see page B11/14).*
*With overload relays **LR9F7●75**...**LR9F7●81**, use of a support mounting plate is mandatory (see page B11/14).*
Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page B11/14).
*Interconnection kit **LA7F407** is required for mounting an **LR9F5●71** thermal overload relay together with an **LC1F185** contactor.*

(2) Standard IEC 60947-4 specifies a tripping time for 7.2 times the setting current In:
- class 10: between 4 and 10 seconds,
- class 20: between 6 and 20 seconds.

Overload relays

Electronic thermal overload relays for TeSys F contactors

LR9F57

Compensated overload relays, class 10 or 20 with alarm

Thermal overload relays:
- compensated,
- with relay trip indicator,
- for a.c.,
- for direct mounting on contactor or independent mounting (1),
- class 10 or 20 by selector switch,
- protection of 3-phase or single-phase circuits by selector switch,
- with alarm function that enables tripping to be forestalled.

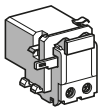
Relay setting range	Fuses to be used with selected relay		For direct mounting beneath contactor LC1	Reference	Weight
	aM	gG			
A	A	A			kg
30…50	50	80	F115…F185	**LR9F57**	0.885
48…80	80	125	F115…F185	**LR9F63**	0.900
60…100	100	200	F115…F185	**LR9F67**	0.900
90…150	160	250	F115…F185	**LR9F69**	0.885
132…220	250	315	F185…F265	**LR9F71**	0.950
200…330	400	500	F225…F500	**LR9F75**	2.320
300…500	500	800	F225…F500	**LR9F79**	2.320
380…630	630	800	F400…F630 and F800	**LR9F81**	4.160

*(1) When mounting overload relays **LR9F57**...**LR9F71** directly beneath the contactor, supporting the relays with a mounting plate is recommended (see page B11/14).*
*With overload relays **LR9F75**...**LR9F81**, use of a support mounting plate is mandatory (see page B11/14).*
Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page B11/14).
*Interconnection kit **LA7F407** is required for mounting an **LR9F71** thermal overload relay together with an **LC1F185** contactor.*

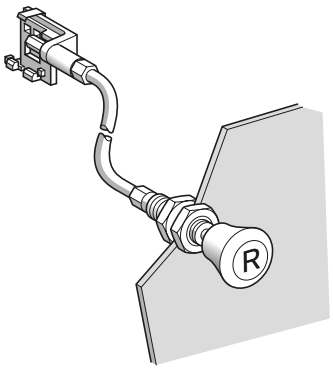
Overload relays

Electronic thermal overload relays for TeSys F contactors

Accessories (to be ord ered separately)



LA7D03●



LA7D305

Control accessories

Description		Sold in lots of	Unit reference
Remote electrical reset device (1)		1	**LA7D03●** (2)
Remote Reset function control by flexible cable (length = 0.5 m)		1	**LA7D305**
Remote Stop and/or Reset function control	Adapter for door mounted operator	1	**LA7D1020**
	Rod (snap-off end to obtain required length, between 17 and 120 mm)	10	**ZA2BZ13**
	Operating head for spring return pushbutton	1	**ZA2B●●●●** (3)

Connection accessories

For mounting an LR9F5●71 thermal overload relay together with an LC1 F185 contactor

Description	Reference
Set of 3 busbars	**LA7F407**

For mounting a thermal overload relay beneath a reversing contactor or star-delta contactors

Application		Width of terminal lug	Set of 3 busbars Reference
For relay	For contactor		
		mm	
LR9F5●57, F5●63, F5●67, F5●69, LR9F57, F63, F67, F69	LC1 F115	15	**LA7F401**
LR9F5●57, F5●63, F5●67, F5●69, LR9F57, F63, F67, F69	LC1 F150, F185	20	**LA7F402**
LR9F5●71, LR9F71	LC1 F185	25	**LA7F407**
LR9F5●71, LR9F71	LC1 F225, F265	25	**LA7F403**
LR9F7●75, F7●79, LR9F75, F79	LC1 F225...F400	25	**LA7F404**
LR9F7●81, LR9F81	LC1 F400	25	**LA7F404**
LR9F7●75, F7●79, F7●81, LR9F75, F79, F81	LC1 F500	30	**LA7F405**
LR9F7●81, LR9F81	LC1 F630, F800	40	**LA7F406**

*(1) The time for which the coil of remote electrical reset device **LA7D03** can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time. Maximum pulse duration of 20 s with rest time of 300 s. Minimum pulse time: 200 ms.*

(2) Reference to be completed by adding the coil voltage code.
Standard control circuit voltages,
(for other voltages, please consult your Regional Sales Office):

Volts	12	24	48	96	110	220/ 230	380/ 400	415/ 440
~ 50/60 Hz	–	B	E	–	F	M	Q	N
Consumption, inrush and sealed: < 100 VA								
⎓	J	B	E	DD	F	M	–	–
Consumption, inrush and sealed: < 100 W.								

*(3) Stop: **ZA2BL432** and Reset: **ZA2BL639**.*

Overload relays

Electronic thermal overload relays for TeSys F contactors

Accessories (to be ordered separately)

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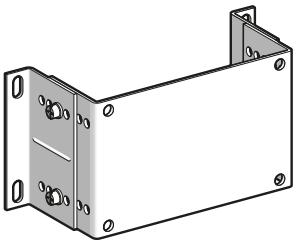

LA7F90●

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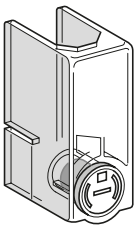

LA9F70●

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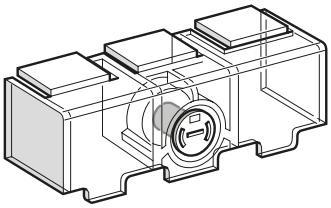

LA7F70●

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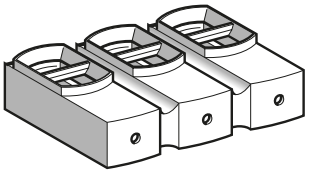


LA9F103

Mounting plates for overload relay

For use with relays	Reference
LR9F5●57, F5●63, F5●67, F5●69, F5●71, LR9F57, F63, F67, F69, F71	**LA7F901**
LR9F7●75, F7●79, F7●81, LR9F75, F79, F81	**LA7F902**

Sets of power terminal protection shrouds, single-pole

For use with relays	Number of shrouds per set	Set reference
LR9F5●57, LR9F57	6	**LA9F701**
LR9F5●63, F5●67, F5●69, LR9F63, F67, F69	6	**LA9F702**
LR9F5●71, LR9F71	6	**LA9F705**
LR9F7●75, F7●79, F7●81, LR9F75, F79, F81	6	**LA9F703**

Power terminal protection shrouds, 3-pole

For use with relays	Reference
LR9F5●57, F5●63, F5●67, F5●69, LR9F57, F63, F67, F69	**LA7F701**
LR9F5●71, LR9F71	**LA7F702**
LR9F7●75, F7●79, F7●81, LR9F75, F79, F81	**LA7F703**

Insulated terminal blocks

For use with relays	Set of 2 blocks Reference
LR9F5●57, F5●63, F5●67, F5●69, LR9F57, F63, F67, F69	**LA9F103**

Marking accessories

Description	Sold in lots of	Unit reference
Clip-in marker holder	100	**LA7D903**
Bag of 400 blank self-adhesive legends 7 x 16 mm	1	**LA9D91**

Overload relays

Single-pole magnetic over current relays

DF533558.tif

RM1XA001

Non-latching

With 1 C/O contact block, non-latching

Recommanded operating range (motor In)		Setting range (trip current)	Maximum continuous current ∼ or ⎓	Reference
A		A	A	
∼ or ⎓	0.7…1.15	1.25…4	1.6	**RM1XA001**
	1.16…1.8	2…6.3	2.5	**RM1XA002**
	1.9…2.9	3.2…10	4	**RM1XA004**
	3…4.6	5…16	6.3	**RM1XA006**
	4.7…7.2	8…25	10	**RM1XA010**
	7.3…11.5	12.5…40	16	**RM1XA016**
	11.6…18	20…63	25	**RM1XA025**
	18.1…29	32…100	40	**RM1XA040**
	29.1…46	50…160	63	**RM1XA063**
	46.1…72	80…250	100	**RM1XA100**
	73…115	125…400	160	**RM1XA160**
	116…145	160…500	200	**RM1XA200**
	146…230	250…800	315	**RM1XA315**
	231…360	400 …1250	500	**RM1XA500**
∼	361…630	630…2200	1000	**RM1XA101**
⎓	361…570	630…2000	1000	**RM1XA101**

Accessory (to be ordered separately)

Description	Reference
1 C/O contact block, non-latching	**RM1ZG21**

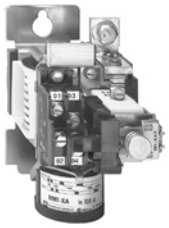
Overload relays

Characteristics: page B11/50
Dimensions: page B11/51
Schemes: page B11/51

Overload relays

Single-pole magnetic over current relays

RM1XA0011



RM1XA1001
+
ER1XA2●

RM1XA0011
+
RM1ZH21

Latching with manual reset

With 1 C/O contact block, latching with manual reset

	Recommanded operating range (motor In)	Setting range (trip current)	Maximum continuous current ∼ or ⎓	Reference
	A	A	A	
∼ or ⎓	0.7…1.15	1.25…4	1.6	**RM1XA0011**
	1.16…1.8	2…6.3	2.5	**RM1XA0021**
	1.9…2.9	3.2…10	4	**RM1XA0041**
	3…4.6	5…16	6.3	**RM1XA0061**
	4.7…7.2	8…25	10	**RM1XA0101**
	7.3…11.5	12.5…40	16	**RM1XA0161**
	11.6…18	20…63	25	**RM1XA0251**
	18.1…29	32…100	40	**RM1XA0401**
	29.1…46	50…160	63	**RM1XA0631**
	46.1…72	80…250	100	**RM1XA1001**
	73…115	125…400	160	**RM1XA1601**
	116…145	160…500	200	**RM1XA2001**
	146…230	250…800	315	**RM1XA3151**
	231…360	400…1250	500	**RM1XA5001**
∼	361…630	630…2200	1000	**RM1XA1011**
⎓	361…570	630…2000	1000	**RM1XA1011**

Accessories (to be ordered separately)

Description	Reference
1 C/O contact block, latching	**RM1ZH21**
Electrical reset [1] (consumption: inrush, sealed: 500 VA) (fitted to the relay together with a latching contact block) Basic reference. Complete with code indicating control circuit voltage [2]	**ER1XA2●**

(1) The impulse duration must not exceed 2 seconds within 10 minute intervals.
(2) Standard coil voltages for electrical reset:

Volts	24	48	110	220	380
50 Hz	B	E	F	M	Q

Overload relays

Characteristics: page B11/50
Dimensions: page B11/51
Schemes: page B11/51

Overload relays

Thermistor protection units for use with PTC thermistor probes (1)

PF526261-24-M.tif

LT3SE00M

PF526262-24-M.tif

LT3SA00M

PF526263-24-M.tif

LT3SM00M

Protection units (without fault memory)

Units with automatic reset with thermistor short-circuit detection

Connection	Voltage		Output contact	Reference
Cage connectors	∿ 50/60 Hz	115 V	N/C	**LT3SE00F**
		230 V	N/C	**LT3SE00M**
	⎓	24 V	N/C	**LT3SE00BD**

Units with automatic reset with thermistor short-circuit detection

On front panel: fault and voltage signalling indicator.

Connection	Voltage		Output contact	Reference
Cage connectors	∿ 50/60 Hz	115/230 V	N/C + N/O	**LT3SA00M**
	⎓	24/48 V	N/C + N/O	**LT3SA00ED**
	∿ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3SA00MW**

Protection units (with fault memory)

Units with manual reset with thermistor short-circuit detection

On front panel:
- fault and voltage signalling indicator,
- Test and Reset button.

Connection	Voltage		Output contact	Reference
Cage connectors	∿ 50/60 Hz	400 V	N/C + N/O	**LT3SM00V**
		24/48 V	N/C + N/O	**LT3SM00E**
		115/230 V	N/C + N/O	**LT3SM00M**
	⎓	24/48 V	N/C + N/O	**LT3SM00ED**
	∿ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3SM00MW**

(1) PTC: Positive Temperature Coefficient.

Overload relays

Characteristics: pages B11/52 to B11/55
Dimensions: page B11/56
Schemes: pages B11/56 and B11/57

Overload relays

Thermistor protection units for use with PTC thermistor probes (1)

DA1TT●●●

DA1TS●●●

PTC thermistor probes (1)

Description	Nominal Operating Temperature (NOT)	Colour	Sold in lots of	Unit reference
	° C			
Integrated triple probes	90	Green/green	10	**DA1TT090**
	110	Brown/brown	10	**DA1TT110**
	120	Grey/grey	10	**DA1TT120**
	130	Blue/blue	10	**DA1TT130**
	140	White/blue	10	**DA1TT140**
	150	Black/black	10	**DA1TT150**
	160	Blue/red	10	**DA1TT160**
	170	White/green	10	**DA1TT170**
Surface probes	60	White/grey	10	**DA1TS060**
	70	White/brown	10	**DA1TS070**
	80	White/white	10	**DA1TS080**
	90	Green/green	10	**DA1TS090**
	100	Red/red	10	**DA1TS100**

Accessories (to be ordered separately)

Mounting accessories

Description	Applicationi	Sold in lots of	Unit reference
Adapter	For fixing on ⊔ rail DZ5 MB	10	**RHZ66**

Marking accessories

Clip-in markers (maximum of 5 per unit)	Strips of 10 identical numbers (0 to 9)	25	**AB1R●** (2)
	Strips of 10 identical capital letters (A to Z)	25	**AB1G●** (2)

(1) PTC: Positive Temperature Coefficient.
(2) When ordering, replace the ● in the reference with the number or letter required.

Overload relays

Electronic over current relays

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LR97D07●●

LR97D electronic over current relays

Relay setting range	Usable range (1)	For use with contactor (2)	Relay supply voltage	Reference (3)
A	A			
0.3…1.5	**0.3…1.3**	LC1 D09…D38	∿ 200…240 V	**LR97D015M7**
			∿ 100…120 V	**LR97D015F7**
			⎓/∿ 24 V	**LR97D015B**
			⎓/∿ 48 V	**LR97D015E**
1.2…7	**1.2…6**	LC1 D09…D38	∿ 200…240 V	**LR97D07M7**
			∿ 100…120 V	**LR97D07F7**
			⎓/∿ 24 V	**LR97D07B**
			⎓/∿ 48 V	**LR97D07E**
5…25	**5…21**	LC1 D09…D38	∿ 200…240 V	**LR97D25M7**
			∿ 100…120 V	**LR97D25F7**
			⎓/∿ 24 V	**LR97D25B**
			⎓/∿ 48 V	**LR97D25E**
20…38	**20…34**	LC1 D25…D38	∿ 200…240 V	**LR97D38M7**
			∿ 100…120 V	**LR97D38F7**
			⎓/∿ 24 V	**LR97D38B**
			⎓/∿ 48 V	**LR97D38E**

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LT4730●●●

LT47 electronic over current relays

Relay setting range	Usable range (1)	Relay supply voltage	Reference
A	A		
LT47 relay with manual/electric reset			
0.5…6	**0.5…5**	∿ 200…240 V	**LT4706M7S**
		∿ 100…120 V	**LT4706F7S**
		⎓/∿ 24 V	**LT4706BS**
		⎓/∿ 48 V	**LT4706ES**
3…30	**3…25**	∿ 200…240 V	**LT4730M7S**
		∿ 100…120 V	**LT4730F7S**
		⎓/∿ 24 V	**LT4730BS**
		⎓/∿ 48 V	**LT4730ES**
5…60	**5…50**	∿ 200…240 V	**LT4760M7S**
		∿ 100…120 V	**LT4760F7S**
		⎓/∿ 24 V	**LT4760BS**
		⎓/∿ 48 V	**LT4760ES**
LT47 relay with automatic reset			
0.5…6	**0.5…5**	∿ 200…240 V	**LT4706M7A**
		∿ 100…120 V	**LT4706F7A**
		⎓/∿ 24 V	**LT4706BA**
		⎓/∿ 48 V	**LT4706EA**
3…30	**3…25**	∿ 200…240 V	**LT4730M7A**
		∿ 100…120 V	**LT4730F7A**
		⎓/∿ 24 V	**LT4730BA**
		⎓/∿ 48 V	**LT4730EA**
5…60	**5…50**	∿ 200…240 V	**LT4760M7A**
		∿ 100…120 V	**LT4760F7A**
		⎓/∿ 24 V	**LT4760BA**
		⎓/∿ 48 V	**LT4760EA**

Accessories (to be ordered separately)

Description	For use with	Sold in lots of	Unit reference
Pre-wiring kits allowing connection of the LR97D relay N/C contact directly to the contactor	LC1 D09…D18	10	**LAD7C1**
	LC1 D25…D38	10	**LAD7C2**
Terminal block for clip-on mounting on 35 mm rail (AM1 DP200)	LR97D	1	**LAD7B106**

(1) To allow adjustment of the tripping sensitivity, see adjustment method (page B11/58).
(2) Please see chapter B8.
(3) If a pre-wiring kit is used, it is no longer possible to electrically wire signalling of tripped status.

Overload relays

Presentation, description: page B11/58
Curves: pages B11/59 and B11/60
Characteristics: pages B11/60 and B11/61
Dimensions, schemes: page B11/62