

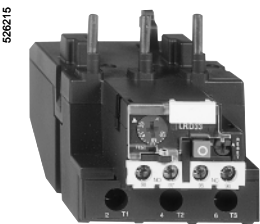
Presentation



LRD 08



LRD 365



LRD 3300

TeSys D thermal overload relays are designed to protect a.c. circuits and motors against:

- overloads,
- phase failure,
- excessively long starting times,
- prolonged stalled rotor condition.

Power connection

LRD 01 to LRD 35

LRD 01 to 35 relays are designed for connection by screw clamp terminals. They can be supplied for connection by spring terminals or by lugs (1).

LRD 313 to LRD 365

LRD 313 to 365 relays are for connection by BTR screw connectors (hexagon socket head).

The screws are tightened by means of a size 4, insulated Allen key.

This type of connection uses the **EverLink®** system with creep compensation (2) (Schneider Electric patent).

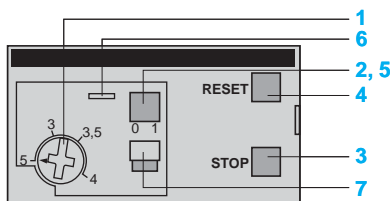
This technique makes it possible to achieve accurate and durable tightening torque.

These relays are also available for connection by lugs (1).

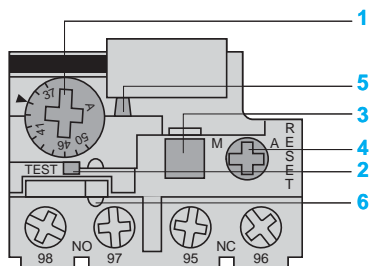
LRD 3361 to 4369, LR2 D3561 to D3563

LRD 3361 to 4369 and LR2 D3561 to D3563 relays are designed for connection by screw clamp terminals. They can be supplied for connection by lugs (1).

Description



LRD 01...35 and LRD 313...LRD 365



LRD 3361...4369, LR2 D3561...3563

TeSys D 3-pole thermal overload relays are designed to protect a.c. circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

- 1 Adjustment dial Ir.
- 2 Test button.
Operation of the Test button allows:
 - checking of control circuit wiring,
 - simulation of relay tripping (actuates both the N/O and N/C contacts).
- 3 Stop button. Actuates the N/C contact; does not affect the N/O contact.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset.

LRD 01 to 35 and LRD 313 to LRD 365 relays are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.

(1) Connection by lugs meets the requirements of certain Asian markets and is suitable for applications subject to strong vibration, such as railway transport.

(2) Creep: normal crushing phenomenon of copper conductors, that is accentuated over time.

Environment			
Conforming to standards			IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508, CSA C22.2 n° 14. ATEX directive 94/9/EC (1)
Product certifications			UL, CSA, CCC, GOST ATEX INERIS (1). GL, DNV, RINA, BV, LROS (2).
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Protective treatment	Conforming to IEC 60068		"TH"
Ambient air temperature around the device	Storage	°C	- 60...+ 70
	Normal operation, without derating (IEC 60947-4-1)	°C	- 20...+ 60
	Minimum /maximum operating temperatures (with derating)	°C	- 40...+ 70
Operating positions without derating	In relation to normal vertical mounting plane		Any position. When mounting on a vertical rail, use a stop.
Flame resistance	Conforming to UL 94		V1
	Conforming to IEC 60695-2-1	°C	850
Shock resistance	Permissible acceleration conforming to IEC 60068-2-7		15 gn - 11 ms
Vibration resistance (3)	Permissible acceleration conforming to IEC 60068-2-6		6 gn
Dielectric strength at 50 Hz	Conforming to IEC 60255-5	kV	6
Surge withstand	Conforming to IEC 60801-5	kV	6

Electrical characteristics of power circuit			LRD 01 ...16, LR3 D01 ...16	LRD 1508 ...1532	LRD 21 ...35, LR3 D21 ...35	LRD 313 ...365 LR3 D313 ...365	LRD 313L ...365L	LRD 3322 ...33696 LR3 D3322 ... 33696	LR2 D3522 ... 3563	LRD 4365 ...4369	
Tripping class	Conforming to UL 508, IEC 60947-4-1		10 A	20	10 A	10 A	20	10 A	20	10 A	
Rated insulation voltage (Ui)	Conforming to IEC 60947-4-1	V	690						1000		
	Conforming to UL, CSA	V	600						600 except LRD 4369		
Rated impulse withstand voltage (Uimp)		kV	6								
Frequency limits	Of the operating current	Hz	0...400								
Setting range	Depending on model	A	0.1...13	2.5...32	12...38	9...65	9...65	17...140	17...80	80...140	

Auxiliary contact characteristics										
Conventional thermal current		A	5							
Max. sealed consumption of the operating coils of controlled contactors (Occasional operating cycles of contact 95-96)	a.c. supply, AC-15	V	120	240	380	480	500	600		
		A	3	1.5	0.95	0.75	0.72	0.12		
	d.c. supply, DC-13	V	125	250	440					
		A	0.22	0.1	0.06					
Protection against short-circuits	By gG, BS fuses. Maximum rating or by GB2	A	5							

(1) For relays LRD01 to LRD365.

(2) Pending for relays LRD313 to LRD365.

(3) For relays LRD 313 to LRD 365: 6 gn only with independent plate mounting and 4 gn when mounted beneath the contactor.

526200



LRD 01

526201



LRD 30

526202



LRD 33

526203



LRD 306

Differential thermal overload relays

for use with fuses or magnetic circuit-breakers GV2 L and GV3 L

- 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	Weight kg
	aM (A)	gG (A)	BS88 (A)			
Class 10 A (1) for connection by screw clamp terminals or connectors						
0.10...0.16	0.25	2	–	D09...D38	LRD 01	0.124
0.16...0.25	0.5	2	–	D09...D38	LRD 02	0.124
0.25...0.40	1	2	–	D09...D38	LRD 03	0.124
0.40...0.63	1	2	–	D09...D38	LRD 04	0.124
0.63...1	2	4	–	D09...D38	LRD 05	0.124
1...1.6	2	4	6	D09...D38	LRD 06	0.124
1.6...2.5	4	6	10	D09...D38	LRD 07	0.124
2.5...4	6	10	16	D09...D38	LRD 08	0.124
4...6	8	16	16	D09...D38	LRD 10	0.124
5.5...8	12	20	20	D09...D38	LRD 12	0.124
7...10	12	20	20	D09...D38	LRD 14	0.124
9...13	16	25	25	D12...D38	LRD 16	0.124
12...18	20	35	32	D18...D38	LRD 21	0.124
16...24	25	50	50	D25...D38	LRD 22	0.124
23...32	40	63	63	D25...D38	LRD 32	0.124
30...38	40	80	80	D32 and D38	LRD 35	0.124
Class 10 A (1) for connection by EverLink® BTR screw connectors (3)						
9...13	16	25	25	D40A...D65A	LRD 313	0.375
12...18	20	32	35	D40A...D65A	LRD 318	0.375
17...25	25	50	50	D40A...D65A	LRD 325	0.375
23...32	40	63	63	D40A...D65A	LRD 332	0.375
30...40	40	80	80	D40A...D65A	LRD 340	0.375
37...50	63	100	100	D40A...D65A	LRD 350	0.375
48...65	63	100	100	D50A and D65A	LRD 365	0.375
Class 10 A (1) for connection by screw clamp terminals or connectors						
17...25	25	50	50	D80 and D95	LRD 3322	0.510
23...32	40	63	63	D80 and D95	LRD 3353	0.510
30...40	40	100	80	D80 and D95	LRD 3355	0.510
37...50	63	100	100	D80 and D95	LRD 3357	0.510
48...65	63	100	100	D80 and D95	LRD 3359	0.510
55...70	80	125	125	D80 and D95	LRD 3361	0.510
63...80	80	125	125	D80 and D95	LRD 3363	0.510
80...104	100	160	160	D80 and D95	LRD 3365	0.510
80...104	125	200	160	D115 and D150	LRD 4365	0.900
95...120	125	200	200	D115 and D150	LRD 4367	0.900
110...140	160	250	200	D150	LRD 4369	0.900
80...104	100	160	160	(2)	LRD 33656	1.000
95...120	125	200	200	(2)	LRD 33676	1.000
110...140	160	250	200	(2)	LRD 33696	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 LRD 01 to LRD 35 and relays LRD 313 to LRD 365.
- A66 for relays LRD 3322 to LRD 3365.

Relays LRD 43●● 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 LRD 4●●●) to LR3 D.

Example: LRD 01 becomes LR3 D01.

Example with EverLink® connectors: LRD 340 becomes LR3 D340.

Example with lugs: LRD 3406 becomes LR3 D3406.

(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 LAD ALLEN4, see page 24511/9).