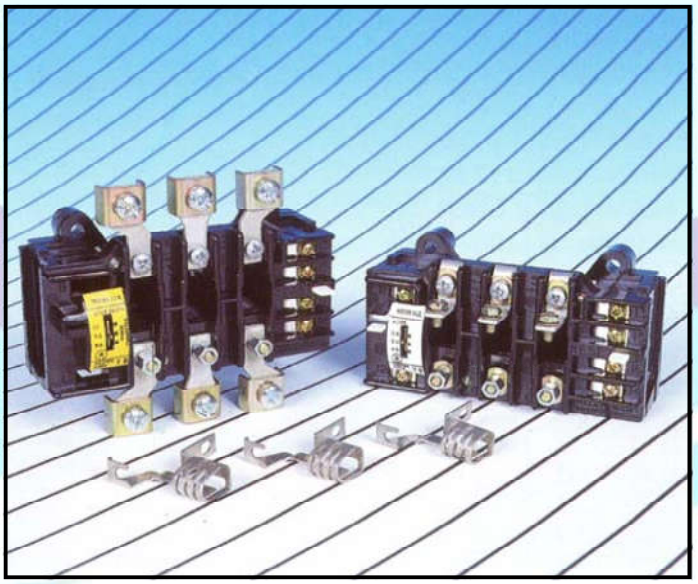
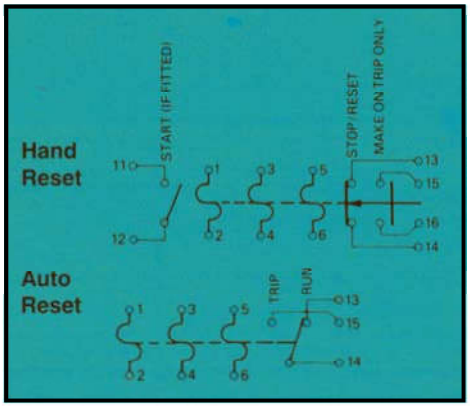
R Type Overload Relays

OVERLOAD RELAYS
(Interchangeable Heater)

- Complies with IEC 947, BS EN 60947
- Phase Loss Trip
- Ambient Temp. Compensation -40^{0}C to +70^{0}C
- Electrically Separate Trip Contacts
  (Hand Reset Version)
- Hand Reset (Auto Available on Request)
- Interchangeable Heaters
- Direct & CT Operation
- Trip Indication
- DOL & Star/Delta Calibration
- Small Panel Projection



WIRING DIAGRAM



Technical Information

Rated Insulation Voltage		660V
Frequency Limits (operating current)		40-400Hz
Ambient Temperature Storage Limits		-40^{0}C to +80^{0}C
Trip Switch—Rated Thermal Current		10A Ith (Hand Reset)
Trip Switch—Rated Thermal Current		4A Ith (Auto & Alarm)
Auxiliary Contact Rating AC15 to IEC947	Hand 650V 0.5A 440V 1.0A 250V 2.0A 110V 4.0A	Auto/Alarm 650V 0.15A 440V 0.25A 250V 0.50A 110V 1.00A

ORDERING INFORMATION
Order separately—R-Type Overload with Terminals + Heater Pack (Page 24)

Overload Relay With Terminals				
Current Range (A)	**Type**	**Trip Contact**	**Terminals**	**Ordering Code**
0.21-27.0A	Hand, Stop Only	N/O & N/C	Saddle Clamp	OLRRS
	Hand, Start & Stop	N/O & N/C	Saddle Clamp	OLRMS
	Auto	Changeover	Saddle Clamp	OLRAS
27 - 72A	Hand, Stop Only	N/O & N/C	Platform	OLRRP
	Hand, Stop Only	N/O & N/C	Loop	OLRRL
	Hand, Stop Only	N/O & N/C	3 Loop, 3 Platform	OLRRM
	Hand, Start & Stop	N/O & N/C	Platform	OLRMP
	Hand, Start & Stop	N/O & N/C	Loop	OLRML
	Hand, Start & Stop	N/O & N/C	3 Loop, 3 Platform	OLRMM
	Auto	Changeover	Platform	OLRAP
	Auto	Changeover	Loop	OLRAL
	Auto	Changeover	3 Loop, 3 Platform	OLRAM

R Type Overload Relays

HEATER PACK

Comprises three heaters with Full Load Current calibration labels.
All heater packs have WHITE labels showing calibration for line connected relays (DOL, Auto Transformer & Stator Rotor). Heaters (Ref. YA to SE) also include YELLOW labels giving calibration in terms of motor FLC for use with phase connected relays (Star/Delta).

Heater Packs (3 Per Set)		
Motor FLC (A) Line Connected	**Max Fuse (A) ***	**Ordering Code**
0.21 - 0.25 A	2	OLRHA
0.25 - 0.29 A	2	OLRHB
0.29 - 0.35 A	2	OLRHC
0.32 - 0.38 A	2	OLRHD
0.37 - 0.45 A	2	OLRHF
0.44 - 0.53 A	2	OLRHH
0.50 - 0.60 A	2	OLRHJ
0.57 - 0.69A	2	OLRHK
0.67 - 0.80 A	4	OLRHL
0.74 - 0.88A	4	OLRHM
0.84 - 1.00 A	4	OLRHN
1.00 - 1.20 A	6	OLRHO
1.20 - 1.40 A	6	OLRHP
1.50 - 1.80 A	10	OLRHR
1.80 - 2.20 A	10	OLRHXP
2.10 - 2.50 A	10	OLRHXR
2.50 - 3.00 A	16	OLRHXS
3.00 - 3.60 A	16	OLRHXT
3.60 - 4.30 A	16	OLRHXU

Heater Packs (3 Per Set)				
Motor FLC (A) Line Connected	**Motor FLC (A) Phase Connected Star/Delta Starter**	**Max Fuse (A) ***		**Ordering Code**
		Std.	**Motor**	
4.1 - 4.9 A	7.1 - 8.5 A	16		OLRHYA
4.8 - 5.8 A	8.5 - 10.0 A	20		OLRHYB
5.9 - 7.1 A	10.0 - 12.0 A	20		OLRHYC
7.0 - 8.4 A	12.0 - 14.5 A	25	20M25	OLRHYD
8.4 - 10.0 A	14.5 - 17.5 A	32	20M32	OLRHYE
10.0 - 12.0 A	17.5 - 21.0 A	35	32M35	OLRHZF
12.0 - 14.5 A	21.0 - 25.0 A	35	32M35	OLRHZG
14.5 - 17.5A	24.5 - 29.5A	40	32M40	OLRHZH
17.0 - 20.5 A	29.0 - 35.0 A	50	32M50	OLRHZJ
19.5 - 23.0A	33.5 - 40.0A	63	32M63	OLRHZK
22.5 - 27.0 A	39.0 - 47.0 A	63	32M63	OLRHZL
27.0 - 32.0 A	46.0 - 56.0 A	80	63M80	OLRHSA
33.0 - 40.0 A	57.0 - 69.0 A	80	63M80	OLRHSB
41.0 - 49.0 A	71.0 - 85.0 A	100	63M100	OLRHSC
50.0– 60.0 A	86.0– 104.0 A	125	100M160	OLRHSD
60.0 - 72.0 A	104.0 - 124.0 A	160	100M160	OLRHSE

Maximum fuse for short circuit protection, prospective 50KA, Type 2 IEC 947, BS EN 60947. These are maximum values and not necessarily values for a particular FLC, therefore the following should be adopted :

1. Select fuse for a particular FLC from manufacturers catalogue.
2. If not greater than listed maximum values then overload is satisfactorily protected.

Solenoid Reset Assembly		
50Hz	**60Hz**	**Ordering Code**
12-24V		U-4145112
32-50V		U-4145113
55-92V	110-120V	U-4145114
110-127V		U-4145115
160-346V	200-380V	U-4145116
380-550V	400-600V	U-4145117

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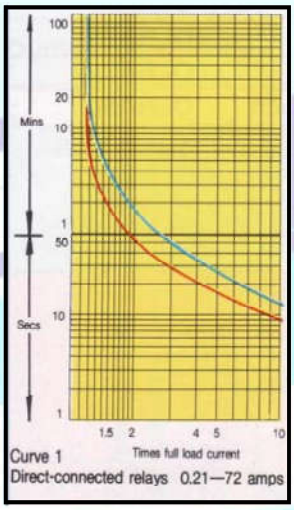
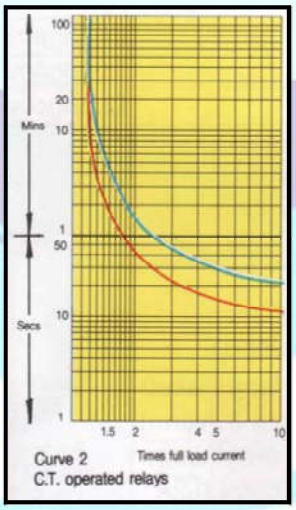
TIME CURRENT CURVES

The time/current curves shown below are typical curves and are derived from an average of the individual heater performance curves.





Normal Applications					
FLC Range (A)		Configuration	Curve No.	Approx. trip times @ 6xFLC	
Line Connected	Phase Connected			From Cold	From Hot
0.21-72.0	7.1 - 124	Direct Connected	1	22 Secs.	15 Secs.
61 - 832	105 - 1439	Relay & CT Type CTR/CTB	2	29 Secs.	14 Secs.

OUTLINE DIMENSIONS

R thermal overload relays
Overall dimensions
(All dimensions in mm for estimating only)
Terminal arrangement for use with heaters 0.21/27A

Fig. 1

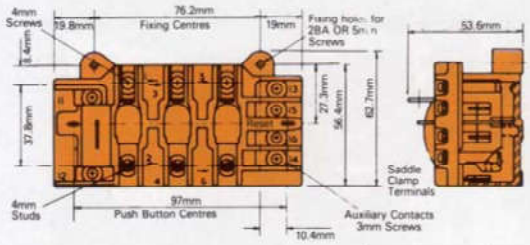
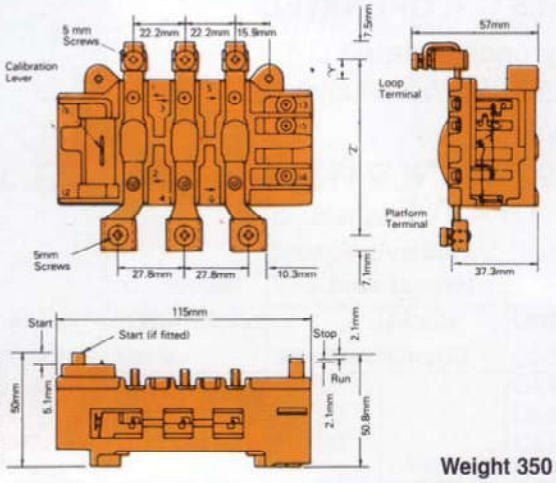


Fig	Terminals Top	Terminals Bottom	Dimension Y mm	Dimension Z mm
2	Platform	Platform	14	82
	Loop	Loop	9.1	73
	Loop	Platform	9.1	78
	Platform	Loop	14	78

Weight 250 gms

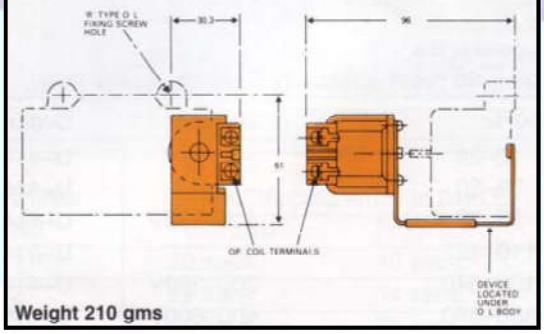
Terminal arrangements for use with heaters 27/72A

Fig. 2



Weight 350 gms

Solenoid reset mechanism



Weight 210 gms

Cabling & Terminals

The standard unit has 6 main terminals rated up to 27A, they are suitable for cable up to 6mm^2 . For ratings between 27A and 72A, platform terminals are suitable for cables up to 25mm^2. Alternatively, for the latter ratings, loop terminals are available with a maximum cable capacity of 35mm^2.

Auxiliary contact terminals will accept cables up to the equivalent of two 2.5mm^2.

R Type Overload Relays

CT OPERATED

- Fully encapsulated CTs
- CTs to BS 7626 Class IOP 3.5 2.5VA
- Long Lag CTs to BS 7626 Class IOP 1.4 2.5VA

Ordering Information—Current Transformers					
Motor FLC (A) Line Connected	**Motor FLC (A) Phase Connected**	**Overload Heater Ref.**	**3 Phase CT Ref.**	**1 Phase CT Ref**	**Turns Ratio**
61-73	105-126	OLRHYA	**CTR010015A** Supplied with 3 holes for primary cables **CTB010015A** Supplied with 3 bar primary connections	**CTR01001SS** Supplied with 1 hole for primary cable	1 : 15
72-87	124-150	OLRHYB			
88-106	152-183	OLRHYC			
106-126	183-218	OLRHYD			
126-150	218-259	OLRHYE			
150-180	259-311	OLRHZF			
143-171	240-295	OLRHYA	**CTB010035A** Supplied with 3 bar primary connections		1 : 35
168-203	290-351	OLRHYB			
206-248	356-429	OLRHYC			
245-294	424-508	OLRHYD			
294-350	508-605	OLRHYE			
350-420	605-726	OLRHZF			
345-402	597-695	OLRHYB	**CTB010065A** Supplied with 3 bar primary connections		1 : 65
402-480	695-830	OLRHYC			
480-546	830-944	OLRHYD			
546-692	944-1197	OLRHYE			
692-832	1197-1439	OLRHZF			

Secondary Connection Kit : AS4050073