File E71572 Project 06NK02983

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REPORT

on

COMPONENT - SUPPLEMENTARY PROTECTORS

SCHURTER AG LUZERN, SWITZERLAND

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#### DESCRIPTION

#### PRODUCT COVERED:

USR, CNR - Component - Supplementary Protectors, Series TA35 and TA36. Refer to Nomenclature Breakdown for further details.

## GENERAL:

These devices are 1, 2 (TA35 and TA36) or 3 pole (TA35) overcurrent supplementary protectors. These protectors are thermally **and optionally magnetically** operated, operate trip free and can be manually reset. These devices are intended for general industrial use and household and commercial appliances. These protectors are intended to be wired in a specific manner consistent with the line pole markings.

# RATINGS:

Trip Rating - 135% of marked ampere rating.

#### Thermally operated

Туре	UG	FW	Maximum,	Freq.,	Maximum A	No. of	TC	OL	SC
			V	Hz		Poles			
OC	A	0	277 AC	50/60	0.05 - 20	1	1	0	2 kA @ 277 V, C1a
OC	A	0	32 DC	-	0.05 - 20	1	1	0	2 kA @ 32 V, C2
OC	E-A	0	277 AC	50/60	0.05 - 20	2	2	0	2 kA @ 277 V, C2
OC	A	0	60 DC	_	0.05 - 20	2	2	0	2 kA @ 60 V, C1
OC	F-A	0	415Y/240	50/60	0.05 - 12	3	2	0	2 kA @ 415 V, C1

# Magnetically operated

Туре	ŪG	FW	Maximum,	Freq.,	Maximum A	No. of	TC	OL	SC
			v	Hz		Poles			
OC	E-A	0	277 AC	50/60	1 - 16	2	2	0	2 kA @ 277 V, C2
OC	A	0	60 DC	-	1 - 16	2	2	0	2 kA @ 60 V, C1

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*NOMI	ENCLATURE BRE.	AKDOWN	<b>TA35</b> :	(See Figure	1 for	details):		
	$\frac{TA35}{a} - \frac{CBD}{b}$	M C	$\frac{F}{d}$	<u>120</u> e	$\frac{CO}{f}$	- <u>a</u>	<u> </u>	h
a.	Basic type	(one,	two or	three pole)				
b.	Actuation M Cxx: Rocke Exx: Rotar	ode r (wit Y	h optic	onal Momenta	ry Swit	cch option	)	
с.	Colors of A W - Rocker W 1 - Rocker W B - Rocker W 3 - Rocker W G - Rocker W 4 - Rocker W Y - Rocker W 5 - Rocker W 6 - Rocker W 6 - Rocker W 7 - Rocker W 7 - Rocker W 7 - Rocker W 7 - Rocker W	ctuato White Clear Black Red tr Green Green Yellow Drange Blue t knob B Rotar	r transpare transpa transpa ranspan lack y knob	arent ent arent cent <b>(Not Sho</b> or Front par	<b>own)</b> nel			
d. *	Legend of A N - without F - Embosse H - Printed K - Printed L - Printed M - Printed P - Printed R - Printed S - Printed	ctuato embos d <b>(Roc</b> (whit (blac (whit (blac (whit (blac (whit	r sing oj k <b>er Tyg</b> e) k) e) k) e) k) e)	r without pr: <b>pe) or Reces</b> :	int sed (Ro	otary Knob	)	

T - Printed (black)

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NOMENCLATURE BREAKDOWN (Cont'd):

*e.	Rated	Current

Z05	0.05	J12	1.2	030	3.0	080	8.0
J01	0.10	J13	1.3	032	2 3.2	085	8.5
Z15	0.15	J14	1.4	03	5 3.5	090	9.0
J02	0.20	J15	1.5	03	7 3.7	100	10.0
Z25	0.25	J16	1.6	040	0 4.0	105	10.5
J03	0.30	J17	1.7	042	2 4.2	110	11.0
Z35	0.35	J18	1.8	04	5 4.5	115	11.5
J04	0.40	J19	1.9	04	7 4.7	120	12.0
Z45	0.45	J20	2.0	050	5.0	130	13.0
J05	0.50	J21	2.1	052	2 5.2	140	14.0
J06	0.60	J22	2.2	05	5 5.5	150	15.0
J07	0.70	J23	2.3	05	7 5.7	160	16.0
J08	0.80	J25	2.5	060	6.0	170	17.0
J09	0.90	J28	2.8	06	5 6.5	180	18.0
J10	1.00			070	0.7	190	19.0
J11	1.10			075	5 7.5	200	20.0

f. Additional features (magnetic release only for 2-pole models with rated currents 1A - 16A) C0 - no other features F1 - magnetic release fast, 1-pole protected F2 - magnetic release fast, 2-pole protected T1 - magnetic release slow, 1-pole protected T2 - magnetic release slow, 2-pole protected

g. Special marking, label, or packaging (optional) 000 - Standard 911 - White frame XXX - Special marking, label or packaging

h. Accessories (optional) CZZxx protective cover (screwable) CZMx1, CZMx2, CZMx3 protective cover (snap-in) CZMx4 front with raised collar C6135 alternate mounting frame

\*

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NOMEN	ICLATURE BREAKDOW	N TA36:	(See 1	Figure	e 5	for	deta	ils)	:					
TA36 a	- R S 1 b c d	4 F e f	Q 1 g h	0 i	0 j	W k	B l	F m	W n	z05 0	00 P	1 q	-	000 r
a.	Basic type (one	or two	pole)											
b.	Actuation Mode R = rocker													
с.	Mounting N = snap in													
d.	Poles 1 = 1-pole 2 = 2-pole													
e.	IP Protection $4 = IP 40$ (not	releva	nt to U	JL)										
f.	Switch type F = ON / OFF M = momentary s	switch												
g.	Connector Q = Quick conne	ector 6	.3 x 0.	8 mm										
h.	Overload protec 1 = 1-pole prot 2 = 2-pole prot	tion cected cected												
i.	Illumination vo 0 = without ill	ltage Luminat:	ion											
j.	Illumination co 0 = without il:	lor Luminat:	ion											
k.	Front color b = black w = white G = grey N = no front co	over												
1.	Actuation color W = white B = black													

R = red

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NOME	NCLATURE BREA	KDOWN (Cont	'd):			
	G = green Y = yellow A = orange L = blue					
m.	Marking of N = Markin H = - / O F = ON / O	Actuator g by Custom FF	er			
n.	Marking col W = white B = black E = emboss N = withou	or ed t				
0.	Rated Current 205 = 0.05 J01 = 0.10 215 = 0.15 J02 = 0.20 225 = 0.25 J03 = 0.30 235 = 0.35 J04 = 0.40 245 = 0.45 J05 = 0.50 J06 = 0.60 J07 = 0.70 J08 = 0.80 J09 = 0.90 J10 = 1.00 J11 = 1.10	nt [A] J12 = J13 = J14 = J15 = J16 = J17 = J18 = J19 = J20 = J21 = J22 = J23 = J25 = J28 =	1.2 0   1.3 0   1.4 0   1.5 0   1.6 0   1.7 0   1.8 0   1.9 0   2.0 0   2.1 0   2.3 0   2.5 0   2.8 0   0 0	30 = 3.0 32 = 3.2 35 = 3.5 37 = 3.7 40 = 4.0 42 = 4.2 45 = 4.5 47 = 4.7 50 = 5.0 52 = 5.2 55 = 5.5 57 = 5.7 60 = 6.0 65 = 6.5 70 = 7.0 75 = 7.5	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
p.	Features (m 1A - 16A) 00 = no fea F1 = magnet F2 = magnet T1 = magnet	agnetic rel tures ic release f ic release f ic release s ic release s	ease only fo East, 1-pole East, 2-pole slow, 1-pole slow, 2-pole	r 2-pole mode protected protected protected protected	els with rated	currents
q.	Accessories 0 = standa	rd				
r.	Version 000 001 - 999	= standard = special m	arking, labe	l of packagi:	ng	

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ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

\* USR - Indicates that these products have been evaluated to the requirements of US Standard as noted in the Test Record

\* CNR - Indicates that these products have been evaluated to the requirements of Canadian Standard as noted in the Test Record.

Conditions of Acceptability -

- 1. These devices should be used within the Recognized ratings specified above.
- 2. These devices are intended for mounting in an overall enclosure of adequate strength and thickness, and with the acceptable spacings provided in accordance with the end product application.
- 3. The terminals of these devices are factory wiring only.
- 4. These devices are designed to trip within the trip curve characteristic provided by the manufacturer. Thermally operated: See Fig. 2 for devices rated less than 3 A and Fig. 3 for devices rated greater than 3 A. Magnetically operated: See Fig. 7.
- 5. These devices are not suitable for branch circuit protection.
- \*6. For thermally operated protectors, the temperature test was conducted by mounting a sample of the protector in a thermally insulated enclosure measuring 100 by 100 by 100 mm overall. A maximum temperature rise of 44.2°C was recorded on the case of the device. Applications of these protectors in smaller enclosures shall be determined suitable in the end-use application.
- 7. The spacing requirements for the two pole devices rated 240 V ac and the three pole devices rated 415Y/240 V have been evaluated to the Standard for Insulation Coordination Including Clearance and Creepage Distances for Electrical Equipment, UL 840 as outlined in UL 1077, Paragraph 17.4 and CSA C22.2 No.235-04, Paragraph 4.9.9.
- \* 8. For thermally operated protectors, the short-circuit test was performed with a J-Type, time delay fuse in series with the protector. A 15 A rated fuse was used for devices rated 0.05 A - 12 A and a 25 A rated fuse was used for devices rated greater than 12 A.
- \* 9. This device has been subjected to the Trip-Free test and the devices are deemed trip-free.

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10. The Operating Temperature Range of -30°C, +60°C and Storage Temperature of -40°C, +80°C and the Derating Factor for Models TA35 and TA36 as indicated in the table below have not been evaluated to UL 1077 and CSA C22.2 No. 235. The suitability of these devices to perform at these temperature ratings shall be determined in the end-use application.

Operational / storage temperature and other temperature ratings

Operational temperature range:	- 30°C + 60°C
Storage temperature	- 40°C + 80°C

CBE tripping behaviour is dependent on temperature			
Ambient temperature (°C)	factor		
	1 pole	2 pole	3 pole (only for TA35)
- 30	0.77	0.76	0.76
*			
*			
*			
*			
+ 23	1.00	1.00	1.00
*			
*			
*			
*			
+ 60	1.06	1.06	1.14

# Up- / derating factor

11. For magnetically operated protectors, the temperature test was conducted by mounting a sample of the protector in a thermally insulated enclosure measuring 120 by 120 by 70 mm overall. Applications of these protectors in smaller enclosures shall be determined suitable in the end-use application.

12. For magnetically operated protectors, the short-circuit test was performed with a CC-Type, time delay fuse in series with the protector. A 15 A rated fuse was used for devices rated 1 A - 12 A and a 25 A rated fuse was used for devices rated greater than 12 A.