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YS11

Small Thermal Motor Protector / Thermal Cut-Out

Plastic Case featured small protector.
Stable and Reliable long life on Non-Current Carry designed device.
Chattering free and precise operating temperature

Features: ***YS11*** was developed to protect people and property from accidents occurring on Motor which is used for Fan motor, washing machine and so on. It functions as a self-resetting thermal cut-out (Type 2B), thermal motor protector (Type 3C) and thermal protector for ballasts.
The YS11 pursued to enable to be used for both of installation manner of on-winding and outside of resin packed motor by clamping or insertion. It directly cut off power line. Since it has plastic case, it does not need to insulate YS11 protector from metal parts of motor

Construction: ***YS11*** is constructed with simple design and based on the well known thermostat technology of Sensata Technologies. And it has enough sealing capability to withstand varnish process and reinforced case enabled to be laced on winding.

7.Movable Arm carries current from 1.Lead to 9.Lower Terminal which is insert molded in 6.Lower Block, via 10.Movable Contact and Stationary Contact.
7.Movable Arm, 8.Bimetal Disc and 5.Upper Plate are riveted to secure with 6.Lower Block by 4.Eyelet. This assembly is inserted into 3.Case, and potting Epoxy to seal.

Since trip time to cut off the power is depending on the operation temperature of YS11 protector. Rating should be selected properly. With referring Performance curve, it can be enabled to select best one which is matching with Motor.

Application Notes: ***R-type*** case was developed for Resin Packed Motor. This is designed to resist for high pressure which may be loaded during molding process. Maximum pressure is required to be control within 7.5Mpa. Please be noted that R-type case does not have enough sealing capability, therefore it should not applied for winding varnish process. Dimension is 6.0mm x 7.8mm (ellipse) x 23.0mm length.

S-Type Case is for use in higher ambient temperature and same configuration as standard case. Housing material is used PPS (RTI:240°C) which is same as R-type case, so that it can resist high temperature for short time. This case is not guaranteed for varnish process as well.

Rating should be selected as properly to protect Motors and other equipment. Short time trip current and Time is described in “Performance” page which helps to choice most adequate operating temperature. Must hold current is also one of important performances, it can be selected from UTC performance curve as well.

Specification:

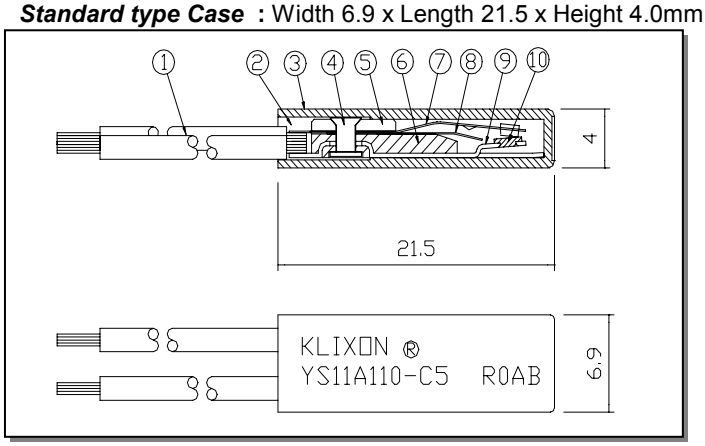
Contact Capacity :	TCO,TMP	7A/250Vac, 10A/125Vac
	TCO	6A/24Vdc, 15A/18Vdc
	Ballast	2A/250Vac
Temperature Range :		
-Motor Protector and Temp control		45 to 150°C
-Ballast protection		45 to 150°C
Tolerance on Open Temperature:		+/- 5K
Max. temp. of the switch head:		150°C
Operating time:		continuous
Pollution situation:		Dirty
Extent of sensing element:		whole control
Degree of protection		IP00
Electrical connections		soldering, welding

Certifications:

UL : E15962 for Motor Protector
E34618 for Temp Indicating & Regulating
ENEC : 2014531.17 for thermal cut-out, -motor and -ballast protector
CQC: CQC02002001340/CQC02002001341 -Protectors are not applied in CCC(China Compulsory Certification) at present. So YS11 can not have CCC but CQC. CQC(China Quality Certification Centre) is a national certification body for appliance in China.

Dimension:

Standard type Case : Width 6.9 x Length 21.5 x Height 4.0mm excluding leads.



No	Part Description	Material
①	Leads	Refer Numbering System
②	Epoxy	
③	Case	PBT or PPS
④	Eyelet	Brass
⑤	Upper Plate	Brass
⑥	Lower Block	PBT
⑦	Movable Arm	Refer Numbering System
⑧	Bimetal Disc	
⑨	Lower Terminal	Brass
⑩	Stationary Contact	AgNi alloy

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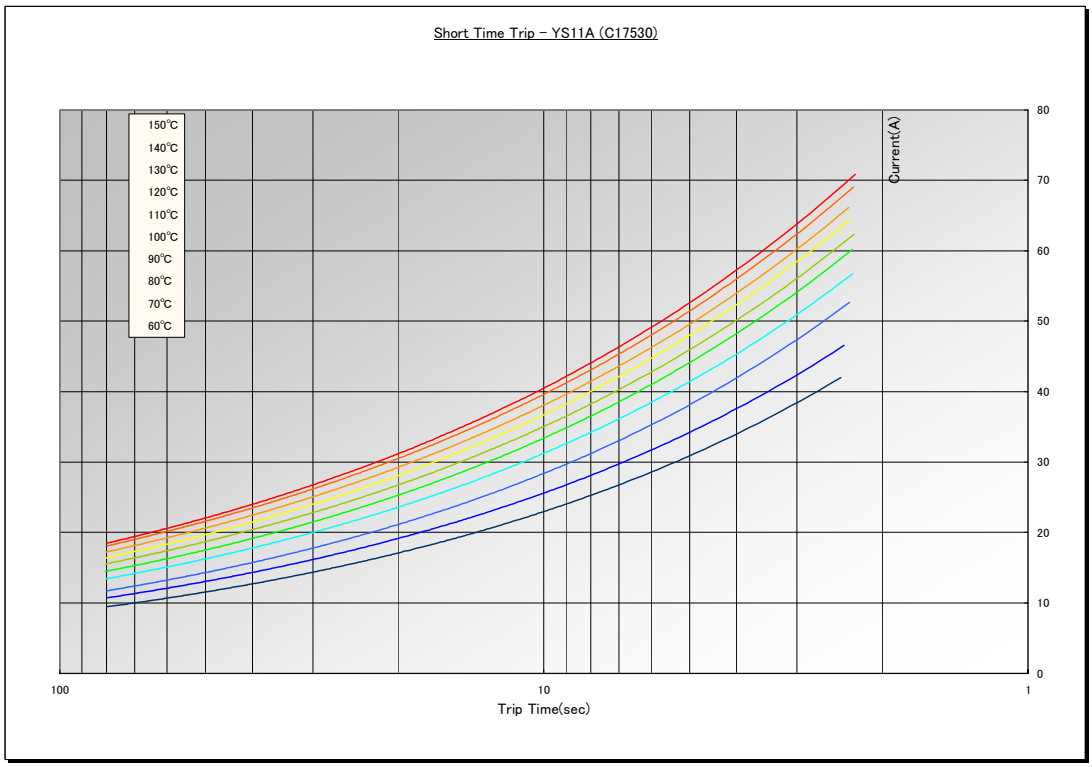
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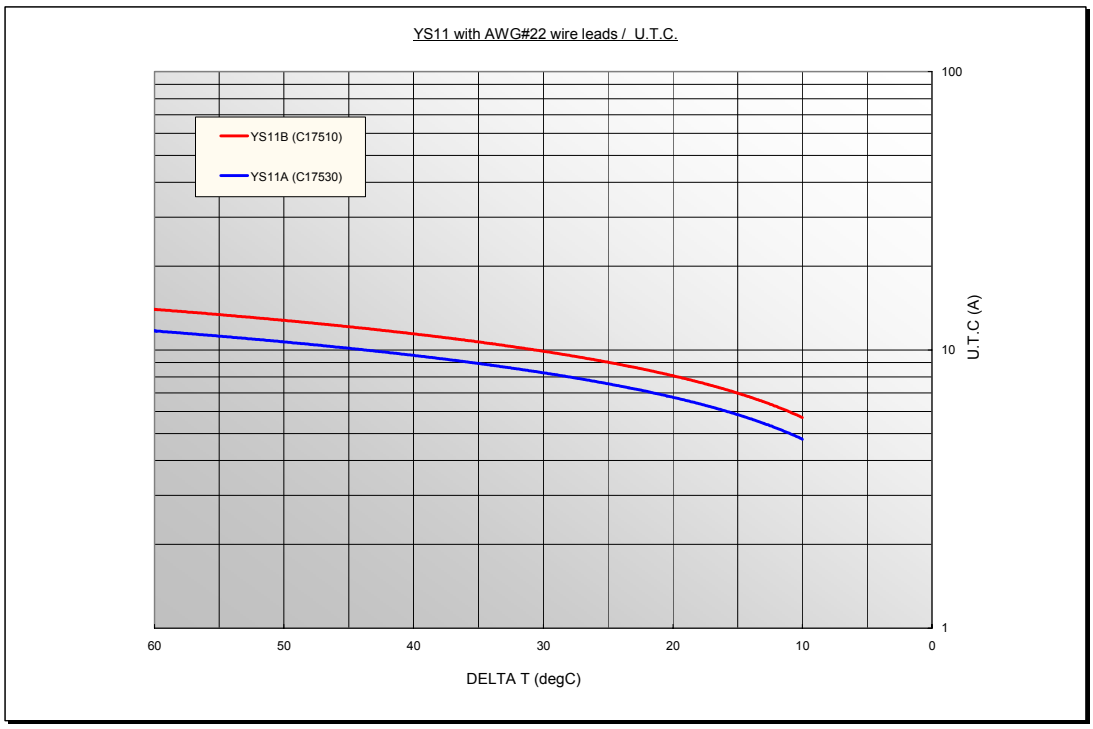
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Performance

Short time trip performance and Ultimate trip current as reference.





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Numbering System

It is clearly defined the numbering system to find what user needs to know as follows.

YS11 X YYYT - ZW(ZZZ) – (V)

(V) : Other options
Omitt : No option
R: Reinforced Case
S: PPS Case
T: Groove contact(For DC rating only)
U: Groove contact and CDA C19220 for lower terminal(For DC rating

YYYT :
YYY : Open temperature Code
T : Close temperature Code
Temperature Code Matrix

YYY		T	
Code	Open (℃)	Close (℃) *1	
		A	B
45 *2	45	>35	>35
50 *2	50	>35	>35
55 *2	55	>35	>35
60 *2	60	>35	>35
65 *2	65	>35	>35
70	70	40	40
75	75	45	45
80	80	50	50
85	85	55	55
90	90	59	60
95	95	62	65
100	100	64	70
105	105	67	75
110	110	70	80
115	115	73	85
120	120	76	90
125	125	79	95
130	130	83	100
135	135	86	105
140	140	90	110
145	145	94	115
150	150	96	120

*1 Close temperature for reference

*2 A is for Snap Open/Close guarantted.
B is for snap open guarantted.

ZW(ZZZ): Optional Leads material, length and else.

Z : Leads material can be selected from table below as standard rating,
A : UL style 3266 AWG22 Tin coated-BL
B : UL style 1430 AWG22-WH
C : UL style 3398 AWG22 Tin coated-YL(Kurabe)
D : UL style 3398 AWG22-YL(Kurabe)
E : UL style 3266 AWG22-BK
F : Copper Solid Wire D=0.8mm
G : UL style 3266 AWG22 Tin coated-WH

W : Leads length can be selected from Table below as standard rating.

5mm Strip		10mm Strip	
W	Length	W	Length
1	25	11	25
2	30	12	30
3	35	13	35
4	40	14	40
5	45	15	45
6	50	16	50
7	55	17	55
8	60	18	60
9	65	19	65
10	70	20	70

(ZZZ) : Other than above standard combination, 2 or 3 digits of number or letter is assigned as customized one.

X : Performance Identification

Code	Arm Material
A	BeCu C17530
B	BeCu C17510

Ex. **YS11A130B-C7**
YS11 with C17530 material Movable Arm.
130℃ open, 100℃ Close temperature.
UL 3398 AWG22 55mm length leads

YS11 : Device Identification

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