

# 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**

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**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:**

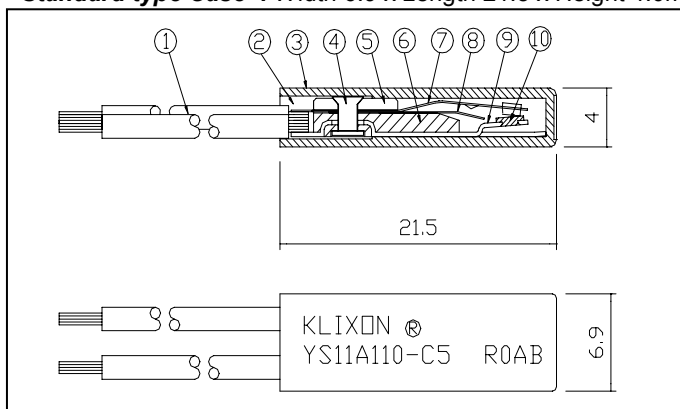
UL : E15962 for Motor Protector  
E34618 for Temp Indicating & Regulating

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

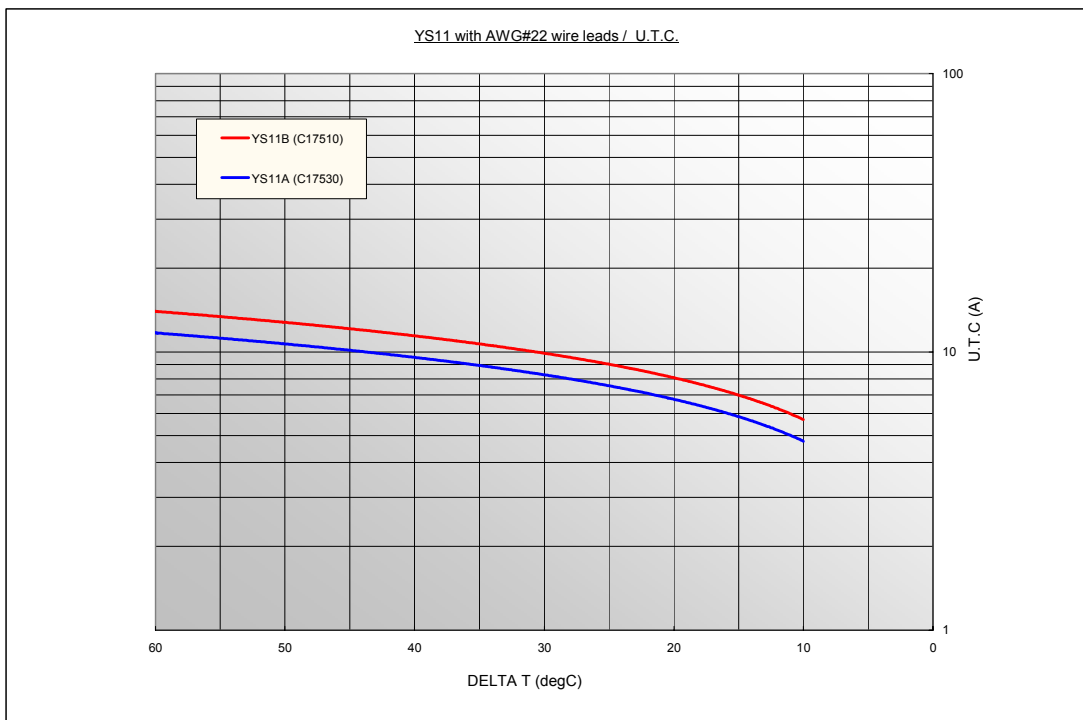
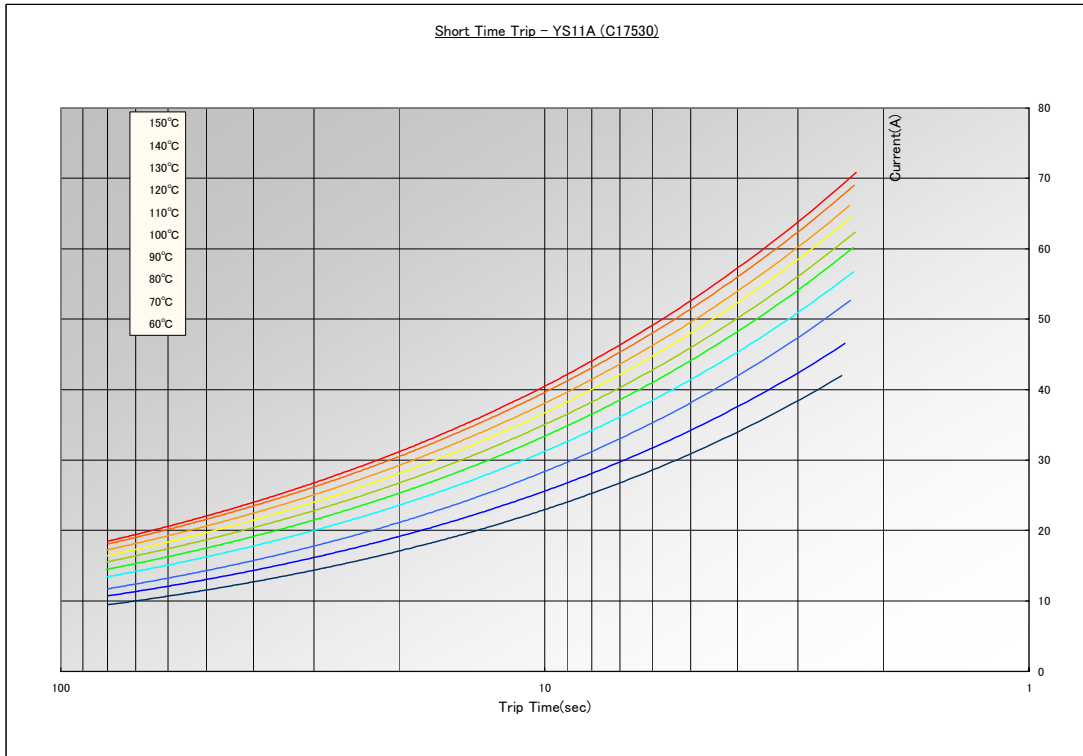


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### **Performance**

Short time trip performance and Ultimate trip current as reference.





**Numbering System**

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

**YS11 X YYYYT - 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

**YYYYT :**  
 YYY : Open temperature Code  
 T : Close temperature Code  
 Temperature Code Matrix

Code	YYY		T	
	Open (°C)	Close (°C) *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 guaranteed.  
 B is for snap open guaranteed.

**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

**YS11** : Device Identification

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

