Product Bulletin

15AM

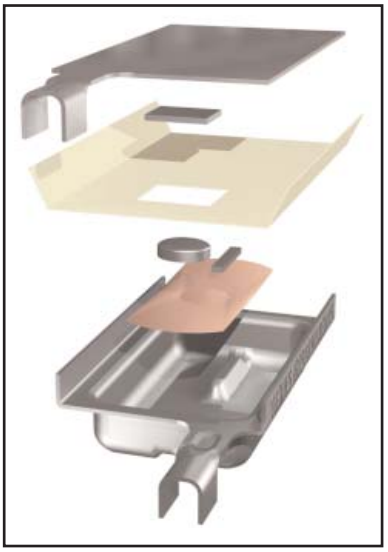
Motor Protector/Thermal Cut-out

As world market leader in appliance motor protection Texas Instruments builds the 15AM motor protector to meet almost any application in this field. The 15AM is designed to provide locked rotor and overload protection in a wide variety of motors for industrial and domestic appliances. The 15AM is the leader in the European AC motor protection market.

Design & operating principles
In the 15AM design the nickel plated shell holds and protects the inner components against varnish penetration and mechanical forces. The heart of the device is the calibrated Klixon™ bimetal disc, responding to current and temperature changes. It is supported by a slug and a contact welded on the disc. The fixed contact is placed on the opposite nickel-zinc coated plated steel shell, separated by a coated gasket for insulating and sealing. The 15AM can be supplied as a basic device with leads and other integrated quick connectors or automated connection systems. Customized lead configurations are available on request. The 15AM can be fitted in the best possible mounting location in combination with the optimum assembly operation. As the 15AM is a metal device it may be necessary to insulate the device from other conductive parts, an insulating sleeve is available on request.

The operating principle of the 15AM is both simple and effective. A current flows through the resistive Klixon™ bimetal disc. When a fault condition occurs, the increased current and shell temperature heats up the bimetal disc which opens the contacts. As the device cools down to a safe temperature, the contacts will automatically reset.

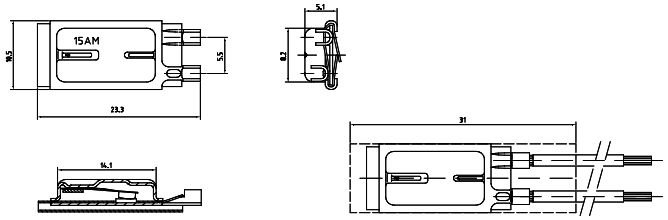
Applications
The 15AM operates as an incorporated thermal sensitive protector in electric motors for pumps, washing machines, dish washers, dryers and in several other applications like vacuum cleaners, fans, battery chargers, transformers for lighting (EN 61558) and microwave ovens.



Key Benefits

- Texas Instruments Engineering knowledge base
- Provides mounting flexibility
- European supply
- Competitive price
- Local Engineering

Dimensions (mm)



Coding System

15AM **345** **A** **034** **A**

Sealing	
Code	Type
A	Standard
B	Hotmelt sealed

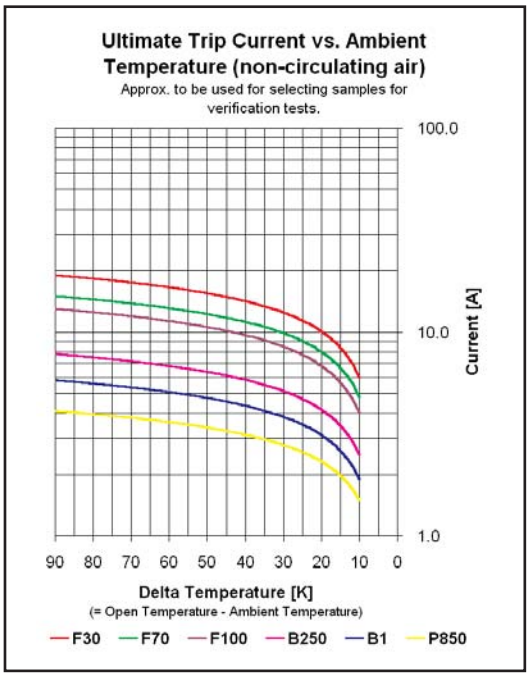
Standard Lead coding	
Length (mm)	Code
55	031
60	032
65	033
70	034
75	035
80	036
90	037
100	038
110	039
125	040
140	041
160	042
180	043
210	044
240	045
Others on request	

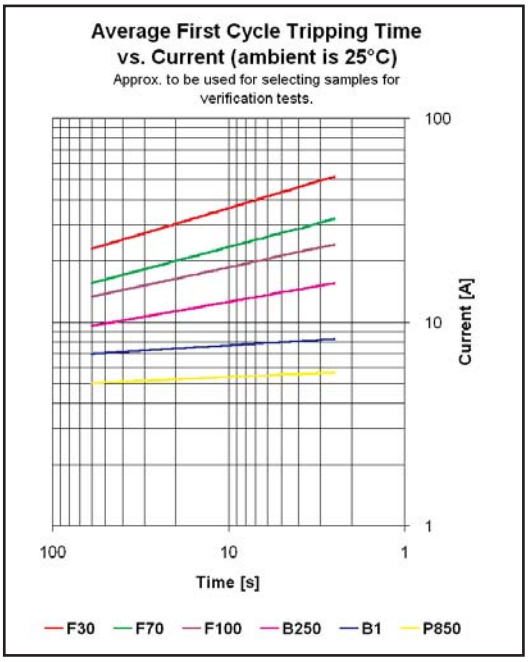
Sleeve coding	
Code	Type
A	Standard
	No sleeve

Standard opening temperature												
Specific Bimetal resistivity	30		70		100		250		500		850	
Nominal differential**	20 K	45 K	20 K	45 K	20 K	45 K	20 K	45 K	20 K	45 K	20 K	45 K
Opening 65°C	006		305		007		008		009			
Temp* 70°C	011		310		012		013		014			
75°C	016		315		017		018		019			
80°C	021		320		022		023		024			
85°C	026		325		027		028		029			
90°C	036		335		037		038		039			
95°C	046		345		047		048		049		050	
100°C	056	061	355	360	057	062	058	063	059	064	060	065
105°C	071	076	370	375	072	077	073	078	074	079	075	080
110°C	086	091	385	390	087	092	088	093	089	094	090	095
115°C		106		405		107		108		109		110
120°C		121		420		122		123		124		125
125°C		136		435		137		138		139		140
130°C		151		450		152		153		154		155
135°C		166		465		167		168		169		170
140°C		181		480		182		183		184		185
145°C		196		495		197		198		199		200
150°C		211		510		212		213		214		215
155°C				520		222		223		224		
160°C				530		232		233		234		
165°C				540		242		243		244		
170°C				550		252		253		254		

* Opening temperature tolerance ± 5K

** Nominal differential equals nominal opening temp. minus nominal closing temp.
Tolerance on closing temperature: 20K differential ± 10K
45K differential ± 15K





Declarations

Declarations to EN60730-2-9	Declarations to EN60730-2-2
Purpose of the control.....Thermal cut-out	Purpose of the control.....Thermal Motorprotector
Construction.....Incorporated, non-electronic	
Degree of protection.....IP00	
Terminals for ext. conductors.For internal conductors only	
Temperature limits of the switchhead.....180°C	
PTI of insulation materials.....PTI 175	PTI of insulation materials.....PTI 175
Method of mounting..... Inserting, clamping, bracketing or the like	Method of mounting..... Inserting, clamping, bracketing or the like
Operating time.....For continuous operation	
Type of action.....Type 2C (T - open) Type 1C (T - close)	Type of action.....Type 3C
Reset characteristic.....Automatic	Reset characteristic.....Automatic
Extent of sensing element....Whole control	
Control pollution degree.....Normal	Control pollution degree.....Normal

Specifications

Standard operating temperature range	from 65°C - 170°C
Tolerance on open temperature	± 5K
Maximum Ambient temperature	180°C
Maximum terminal temperature	185°C

Certifications

Agency	File number	Rating A-res (A-ind. @ PF=0.6)V / cycles	Standard
ENEC	2014531.04	20(5)A250 Vac @ 3.000 cycles 13(5)A250 Vac @ 10.000 cycles	EN60730-2-9 Thermal cut-out EN60730-2-2 Thermal motorprotector
UL	E 15962	Description report	UL2111
CSA	LR11372	Description report	CSA std C22.2 N° 0-M1982

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