KLIXON®

Motor Protectors from Texas Instruments
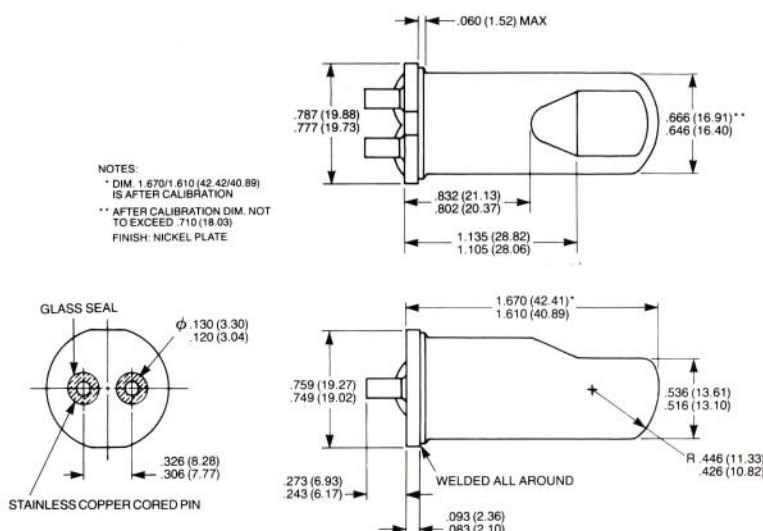## 16 HM Series
Hermetically Sealed Single-Phase On Winding Protection

Features

- **Direct line break**
- **Automatic reset**
- **Compact and rugged construction**
- **Provides start winding protection**
- **Meets scroll and high side compressor requirements**
- **Low-price alternative for 5 HM and 6 HM hermetic protectors**
- **Application range – 2HP to 6HP***
- **Tamperproof protection**
- **Hermetically sealed**

Basic 16 HM Envelope

NOTES:
* DIM. 1.670/1.610 (42.42/40.89) IS AFTER CALIBRATION
** AFTER CALIBRATION DIM. NOT TO EXCEED .710 (18.03)
FINISH: NICKEL PLATE

.060 (1.52) MAX
.787 (19.88) / .777 (19.73)
.666 (16.91)** / .646 (16.40)
.832 (21.13) / .802 (20.37)
1.135 (28.82) / 1.105 (28.06)

GLASS SEAL
φ .130 (3.30) / .120 (3.04)
.326 (8.28) / .306 (7.77)
STAINLESS COPPER CORED PIN

1.670 (42.41)* / 1.610 (40.89)
.759 (19.27) / .749 (19.02)
.536 (13.61) / .516 (13.10)
.273 (6.93) / .243 (6.17)
WELDED ALL AROUND
.093 (2.36) / .083 (2.10)
R .446 (11.33) / .426 (10.82)

Product Description

16 HM hermetic overload protectors are a new generation product designed to meet the demands of tomorrow's compressors. The 16 HM family of motor protectors can be applied to air conditioning compressors ranging from 2 to 6HP*

The 16 HM utilizes two internal heaters. One of them is sensitive to start winding current and the other is sensitive to main winding current. The device can protect against start winding overheating and against conditions which generate high main winding currents. Its compact and rugged design make it resistant to mechanical shock and suitable for installation directly on motor windings.
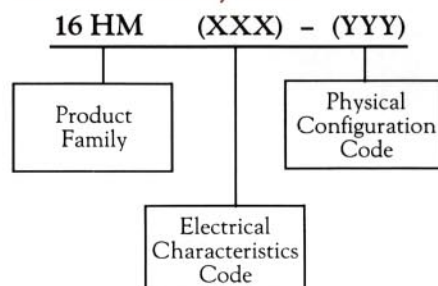
Line Break Operation

Klixon 16 HM motor protectors are line break automatic reset controls which are wired in series with the motor windings. These protectors are designed to track winding temperatures and to respond to changes in line current.
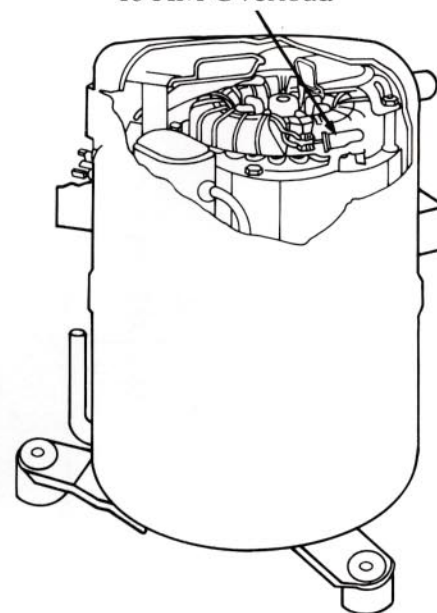
When properly applied, the 16 HM can provide protection against motor overheating under the following conditions:
- Running overload
- High/low voltage locked rotor
- High voltage light load
- Loss of refrigerant charge
- Welded start relay
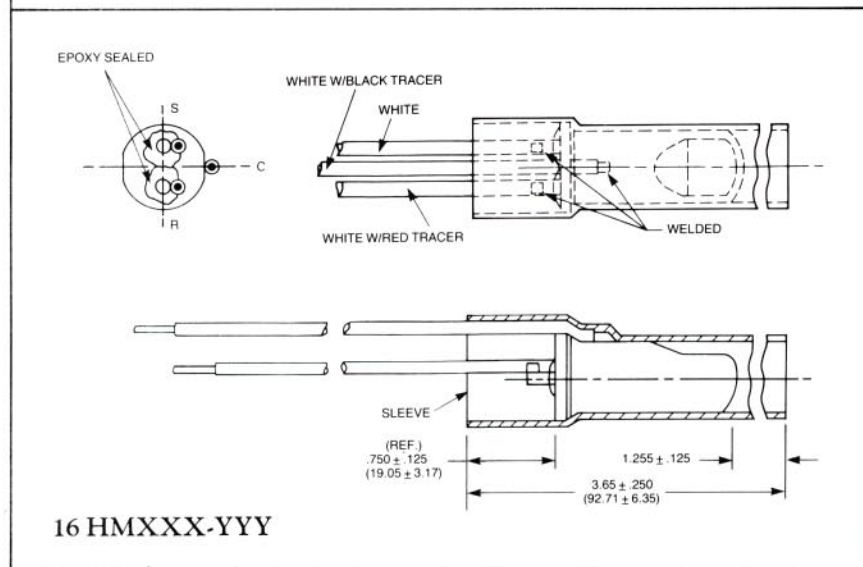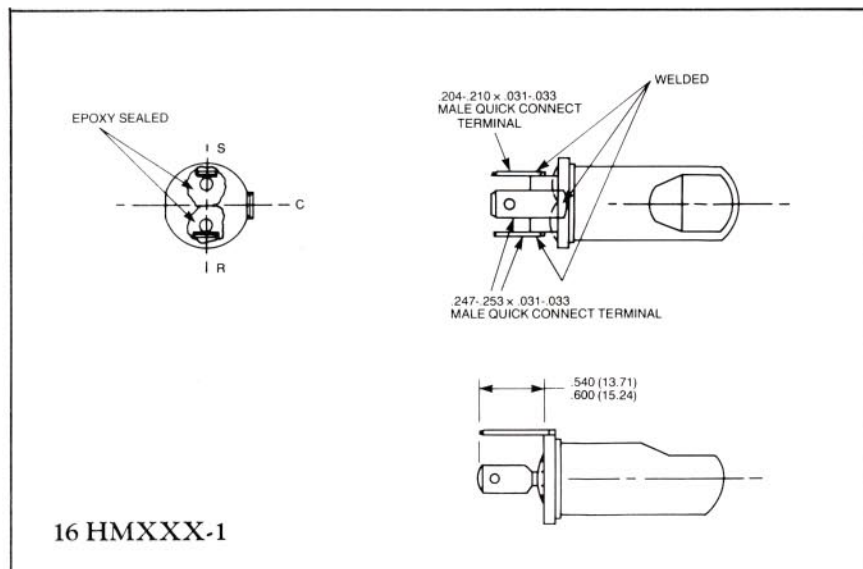- Shorted capacitor
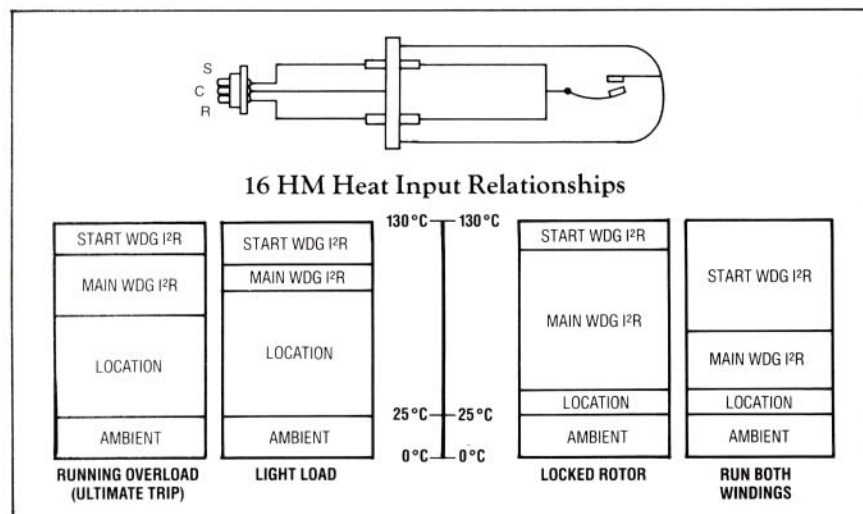- Blocked condenser fan

16 HM Code System

16 HM   (XXX) – (YYY)

Product Family

Electrical Characteristics Code

Physical Configuration Code

16 HM Overload

Hermetic Compressor

© Copyright Texas Instruments Inc. 1990

16 HM Termination Styles

EPOXY SEALED

WELDED

.204-.210 x .031-.033
MALE QUICK CONNECT
TERMINAL

.247-.253 x .031-.033
MALE QUICK CONNECT TERMINAL

.540 (13.71)
.600 (15.24)

16 HMXXX-1

EPOXY SEALED

WHITE W/BLACK TRACER

WHITE

WHITE W/RED TRACER

WELDED

SLEEVE

(REF.)
.750 ± .125
(19.05 ± 3.17)

1.255 ± .125

3.65 ± .250
(92.71 ± 6.35)

16 HMXXX-YYY

Internal Geometry
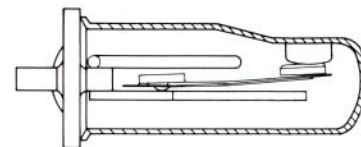
Protector Rating

Series	Line Voltage	Lock Rotor Current
16 HM 1XX	230V	*165 Amps

*To be used as a guide for selection only, consult factory for specific life test data.

Specifications

Open temperature......95°C-155°C
in 5°C increments.
Tolerance..............±5°C open
......................±9°C close
Several termination options
U/L Recognized-File E15962
CSA Certified-File LR11372

For further information write or call:
**Texas Instruments Incorporated
Motor Controls Marketing
Attleboro, MA 02703
Telephone: (508) 699-3800**

Texas Instruments provides customer
assistance in varied technical areas.
Since TI does not possess full access
to data concerning all of the uses
and applications of customers'
products, responsibility is assumed
by TI neither for customer product
design nor for any infringements of
patents or rights of others which
may result from TI assistance.

Circuit Diagram

S
C
R

16 HM Heat Input Relationships

START WDG I²R	START WDG I²R	130°C — 130°C	START WDG I²R	
MAIN WDG I²R	MAIN WDG I²R			START WDG I²R
LOCATION	LOCATION		MAIN WDG I²R	
		25°C — 25°C	LOCATION	MAIN WDG I²R
AMBIENT	AMBIENT	0°C — 0°C	AMBIENT	LOCATION
				AMBIENT
RUNNING OVERLOAD (ULTIMATE TRIP)	**LIGHT LOAD**		**LOCKED ROTOR**	**RUN BOTH WINDINGS**