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SERVICE BULLETIN:
KRIWAN MOTOR SENSORS

PRODUCTS: Medium Screw Compressors

BACKGROUND:

In May 2004 Hartford Compressors began using Kriwan thermal motor protection sensors embedded in the motors of our Medium Screw Compressors. These sensors have a different resistance rating in comparison to the Texas Instruments sensors previously used.

IDENTIFICATION:

The last two digits of the compressor serial number identify the motor style.

i.e. Serial # DWC-A0123-16

(16) Indicates that this is a Leroy Somer motor with the new style (Kriwan) sensors.

Motors with new sensors will be identified with the numbers **16 – 17** or **18** at the end of the serial number.

SENSOR RESISTANCE:

The following table explains the characteristics of the three types of sensors.

SENSOR	ROOM TEMP 77°F (25°C)	OPERATING TEMP 170°F (76.7°C)	TRIP POINT TEMP AT MODULE 305°F (152°C)
Robertshaw	76 Ω	94 Ω	124 Ω
Texas Instruments	500 – 2500 Ω	< 2500 Ω	5000 Ω
Kriwan	10-100 Ω	< 100 Ω	13,500 Ω

NOTES:

The Texas Instruments 2ACE module when used will require the installation of (500 – 1000 Ω resistors, 1 watt ea.) to be placed in-line from each sensor to the module. This is necessary because the TI 2ACE module cannot read resistances under 200 Ω. Below 200 Ω the module will give a ground fault trip.

The T.I. and the Kriwan sensors will have low resistance readings until just before reaching the trip points. At that point, the resistance will increase rapidly until it reaches the trip point. As seen below the Kriwan sensor will have a lower resistance during operation than it will at room temperature.

