

# MOTOR PROTECTORS

## 3420 (MC20) GARD-PAK III SOLID-STATE LUBE OIL AND MOTOR PROTECTORS

The 3420 Series is a solid-state device that combines the function of a motor protector and lube oil protector into one compact control. The motor protector portion operates the same as the 3433 Series and utilizes the same sensors. The oil protector portion is similar in operation to the 3321 Series, except it has a separate oil pressure sensor. This sensor is available separately. Refer to the 3361 section below.

### 3420-104 UNI-KIT®

The 3420-104 is designed to replace the obsolete 3420-101 (MC20-1001). The 3420-101 had a non-replaceable, internal fuse for control circuit protection. An inadvertent short in the circuit would cause the internal fuse to fail, requiring the replacement of the complete control.

The 3420-104 Uni-Kit contains all the required hardware and instructions to replace MC20-1001 controls with the newer MC20-1101. The 3420-104 Uni-Kit has a field replaceable external fuse for control circuit protection, in the event of output circuit overload. The 3420-104 with the external fuse can be identified by the absence of the "R2" terminal on the control (the "R2" terminal function is now done internally). The 3420-104 Uni-Kit uses a mechanical relay for closure of the "M1-M2" contacts instead of a Triac circuit, which was utilized on the obsolete 3420-101 design. Since the mechanical relay closes "M1-M2" slower than the Triac circuit, unit lockout may occur unless a time delay relay (included) is used in conjunction with the 3420-104 version. This time delay is also available separately - order **30-115**. 6 amp replacement fuse also available - order **30-120**

### REPLACEMENT SENSORS

See page D107.



### ELECTRICAL RATING

CONTROL LOAD RATING		
AT 50/60 HZ	120 VAC	208/240 VAC
VA RATING	300	375
STEADY STATE (INDUCTIVE) TERMINALS M1, M2	2.5 Amps	1.56 Amps
INRUSH CURRENT	25 Amps	15.6 Amps
VOLTAGE TOLERANCE	102 VAC Min. 132 VAC Max.	170 VAC Min. 264 VAC Max.

### TIME DELAY RELAY

### ORDERING DATA

UNI-LINE ORDER NO.	REPLACES MODEL	TIME DELAY
30-115	TRANE RLY-751	0.3 SEC.

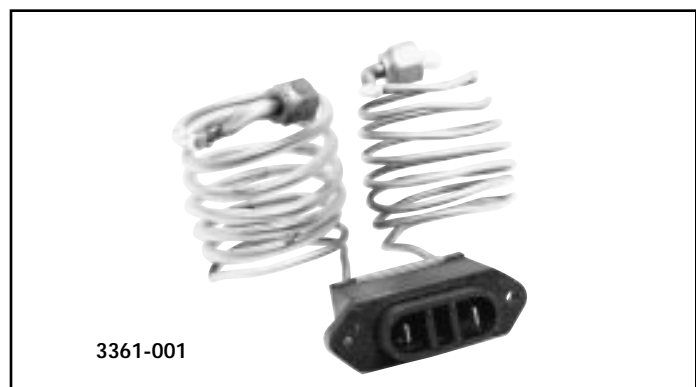
### ORDERING DATA

UNI-LINE ORDER NO.	DIVISION NUMBER	TEMPERATURE SETTINGS OF		TIME DELAY (SECONDS)	RESET TYPE	VOLTAGE A.C.	EXACT REPLACEMENT FOR O.E.M. NUMBER
		CUT-OUT	CUT-IN				
3420-104*	MC20-1101 MC20-1001	195	185	90	AUTO	120	TRANE 13650113-01 13650083-01
3420-105†	MC20-1101						TRANE 13650113-01
3420-107✓	MC20-2101						-

\* Special Uni-Kit. See descriptive copy above. † Replacement module only. ✓ Obsolete - limited to stock on hand.

## 3361 (LS10) LUBE OIL PRESSURE SENSOR

The 3361 solid-state lube oil pressure sensor is designed to work in conjunction with the 3420 motor protectors. These controls sense all pressure at the oil pump (higher pressure) and the suction or crankcase pressure (lower pressure) simultaneously. The control operates on the difference in pressure between these two points. This difference is monitored as a "signal" which is transmitted to the 3420 module. The 3361 sensor connects to terminals "P1" and "P2" on the 3420 module and can then be mounted in any convenient place on the equipment.



### ORDERING DATA

UNI-LINE ORDER NO.	DIVISION NUMBER	PRESSURE CONNECTIONS				TERMINAL TYPE	EXACT REPLACEMENT FOR O.E.M. NUMBER
		PRESSURE SETTINGS (PSI)		(LENGTH)			
		CUT-OUT	CUT-IN	LUBE	SUCTION		
3361-001	LS10-1001	15	23	46"	48"	1/4" MALE QUICK CONNECT	TRANE 13230031