

601 SERIES

3-Phase Voltage & Frequency Monitor



Description

The Model 601 is a fully-programmable voltage monitor designed to protect 3-phase motors from loss of any phase (single-phasing), phase reversal, low or high voltage, voltage unbalance, low or high frequency, and rapid cycling. It can be used as a stand-alone product or networked with an RM1000, RM2000, PLC, computer or SCADA system.

When a harmful condition is detected, the 601's output relay is deactivated after the specified trip delay. The output relay reactivates after power line conditions return to an acceptable level for the programmed restart delay (RD2).

Eleven (11) setpoints are viewable with the 3-digit LED display or from a networked device:

- low voltage
- high voltage
- voltage unbalance
- low frequency
- high frequency
- RS485 address
- trip delay for single-phase faults
- rapid-cycle timer (RD1)
- restart delay after all faults (RD2)
- type of restart after all faults (manual or automatic)
- trip delay for voltage/frequency faults

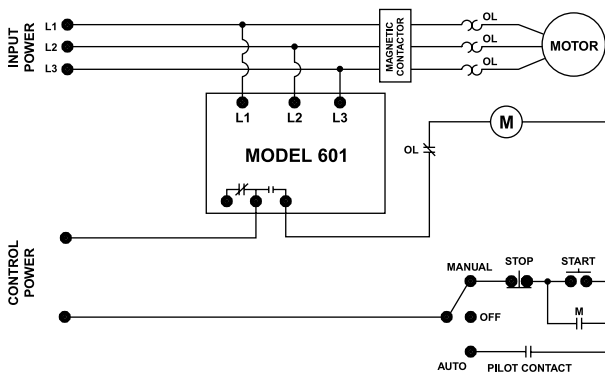
Six (6) parameters are viewable while the motor is running:

- L1-L2 voltage
- L2-L3 voltage
- L1-L3 voltage
- average voltage
- voltage unbalance (%)
- frequency

When used with the RS485MS-2W communications module, the 601 can communicate with most Modbus RTU master devices. Voltage conditions can be monitored and setpoints can be changed remotely using Solutions software, an RM1000, RM2000 or other device.

Wiring Diagram

MODEL 601 WITH MOTOR CONTROL



Ordering Information

MODEL	LINE VOLTAGE	DESCRIPTION
601	190-480VAC	Universal 3-Phase Voltage & Frequency Monitor
601575	500-600VAC	Used primarily in Canada and NE USA where 575V utility power services are common

Features & Benefits

FEATURES	BENEFITS
Built-in display	Provides real time information and diagnostics to help with troubleshooting
Programmable voltage and frequency settings	Allows usage on wide range of systems
2 programmable restart delay timers	Program separate restart delay time for rapid cycle protection and motor cool down
2 programmable trip delay timers	1 trip delay specifically for Phase Loss/Single-Phase fault condition, 1 trip delay for all other fault conditions
Programmable restart control	Choose between an adjustable automatic or manual restart to best meet individual application needs
Flexible reset	Reset options include pushbutton on relay or remote reset with optional 777-MRSW or OL-RESET remote reset kit
Remote display compatibility	Increases safety through remote display of real-time data and fault history, without the need to open the cabinet. Aids with arc flash safety regulations
Network communications capability	Compatible with RS-485 Modbus communications module

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Accessories



RS485MS-2W Communication Module
(for limited Modbus capabilities) Required to enable the Modbus communications function on Model 77X-type products.



RM1000 Remote Monitor
The RM1000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring for up to 16 devices.



RM2000 Remote Monitor
The RM2000/777 motor management system combines unsurpassed electronic motor protection and critical, user-friendly, motor monitoring with event storage and real-time clock for date and time stamp.



777-MRSW Manual Remote Reset Kit
Allows the 777 line of MotorSaver[®] and PumpSaver[®] products to be manually reset without opening the panel door.



OL-RESET Manual Remote Reset Kit
Allows the 777 line of MotorSaver[®] and PumpSaver[®] products to be manually reset without opening the panel door.

Specifications

Input Characteristics

Frequency 50/60Hz

Functional Characteristics

Programmable Operating Points

LV - Low Voltage Threshold 170V (450V*) - HV Setting

HV - High Voltage Threshold LV Setting - 528V (660V*)

VUB - Voltage Unbalance

Threshold 2-15% or off

LF - Low Frequency

Threshold 35Hz - HF Setting

HF - High Frequency

Threshold LF Setting - 75Hz

TD1 - Trip Delay for Voltage/Unbalance/Frequency Faults

1-50 seconds

TD2 - Trip Delay for Single-Phase Faults

1-50 seconds

RD1 - Rapid-Cycle Timer

0, 2-500 seconds

RD2 - Restart Delay After All Faults

2-500 seconds

#RF - Type of Restart

Manual or Automatic

ADDR - RS-485 Address

A01-A99

Fixed Reset Points

Overvoltage Reset 97% of HV Setting

Low Voltage Reset 103% of LV Setting

Voltage Unbalance Reset UB Setting -1%

Low Frequency Reset LF Setting +0.6Hz

High Frequency Reset HF Setting -0.6Hz

Output Characteristics

Output Contact Rating

Pilot Duty 480VA @ 240VAC

General Characteristics

Temperature Range -20° to 70°C (-4° to 158°F)

Accuracy

Voltage ±1%

Timing

5% ±1 second

Repeatability

Voltage ±0.5%

Maximum Input Power

5 W

Transient Protection (Internal)

2500 V for 10 ms

Safety Marks

UL UL508 (File #E68520)

CSA C22.2 No. 14 (File #46510)

CE IEC 60947-6-2

Dimensions **H** 77.47 mm (3.05"); **W** 97.79 mm (3.85");

D 128.27 mm (5.05")

Weight 1.2 lbs. (19.2 oz., 544.31 g)

Mounting Method Surface mount (4 - #8 screws)

or DIN rail mount

The 601 can be preprogrammed prior to installation by applying at least 120V to the L1 and L2 terminals.

*575V Model