

### INFORMER MS OPERATION

The Informer MS is a handheld diagnostic tool designed for use with MotorSaver® Model 455s equipped with infrared LED transmitters. The Informer MS receives and displays MotorSaver® data to assist in monitoring and troubleshooting the system.

An auxiliary kit is available which allows the Informer MS to read data from a panel-mounted Model 455 without opening the panel door.

**Note:** See page 7 for more information about the IR kit and to determine if a Model 455 is compatible with the Informer MS.

1. Verify power is applied to the system. Refer to the MotorSaver® installation instructions for installing and operating the Model 455.
2. Press the ON button to activate the Informer MS and direct it toward the MotorSaver®. The green COMM STATUS light will turn on, indicating data is being received.

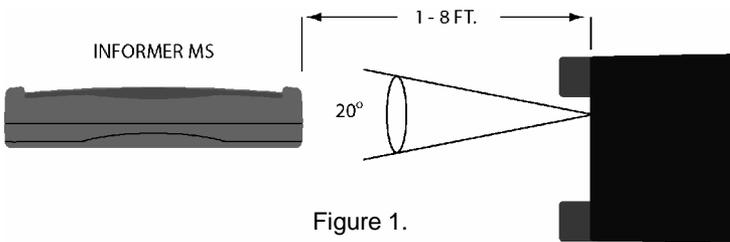
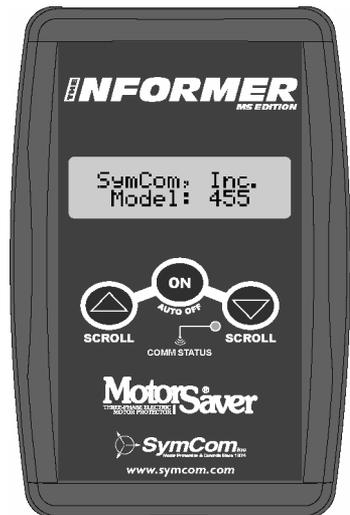


Figure 1.

3. Use the SCROLL buttons to view the MotorSaver's operating parameters. If the data signal is interrupted, the Informer MS will hold the last values it received before communication was lost.
4. The Informer MS will automatically power off if the scroll buttons are not pressed for 2 minutes.

**Note:** A battery check is performed each time the Informer MS is turned on. "Low Battery!" will appear when the battery needs replacing.



II-INFORMER-MS-B

## OPERATING PARAMETERS

By using the scroll buttons, each of the MotorSaver's operating parameters can be displayed. The following are screen examples and descriptions of each parameter (shown in the order they are displayed when using the scroll down button).

		I	n	f	o	r	m	e	r	M	S			
		V	e	r	s	i	o	n	:		2	.	0	4

**Power-up Screen:** Momentarily displays the Informer model and the version number on power-up before jumping to the Model Screen. To view this screen at any point during operation, press both scroll buttons at the same time.

		S	y	m	C	o	m	,		I	n	c	.		
		M	o	d	e	l	:			4	5	5			

**Model Screen:** Displays the model number of the MotorSaver<sup>®</sup>. Jump to this main screen at any time by pressing both scroll buttons simultaneously. From here, the down scroll button will lead to the real time data, settings and fault screens. The up scroll button brings up the Motor Start Screens.

L	i	n	e	:				V	A	B	=	4	4	6
V	B	C	=	4	1	4		V	C	A	=	4	2	6

**Voltage Screen:** Displays the real-time, 3-phase, line-to-line voltages.

V	U	B	:				L	o	a	d	=			8	%
L	i	n	e	=		4	%	S	t	P	t	=		7	%

**Voltage Unbalance Screen:** Displays the load-side voltage unbalance, the line-side voltage unbalance and the voltage unbalance setpoint.

Load-Side Voltage Unbalance: The Informer MS displays the voltage unbalance determined on the load side of the magnetic contactor.

Line-Side Voltage Unbalance: The Informer MS displays the voltage unbalance determined on the line side of the magnetic contactor.

Voltage Unbalance Setpoint: The Informer MS displays the exact voltage unbalance setting which corresponds to the position of the dial on the MotorSaver<sup>®</sup>.

T	r	i	p	D	e	l	y	:	S	t	P	t	=		1	8	s
R	e	a	l	T	i	m	e	C	n	t	=			0	s		

**Trip Delay Screen:** Displays the trip delay setting and trip delay timer.

Trip Delay Setpoint: The Informer MS displays the exact trip delay setting which corresponds to the position of the dial on the MotorSaver<sup>®</sup>.

Real-Time Counter: When the MotorSaver<sup>®</sup> determines the voltage is high, low or unbalanced, it begins a trip counter that will be displayed by the Informer MS. Once this counter reaches the trip delay setting, the MotorSaver<sup>®</sup> will trip off.

R	s	t	D	e	l	a	y	:	S	t	P	t	=			2	s
R	e	a	r	T	i	m	e	C	n	t	=					0	s

**Restart Delay Screen:** Displays the restart delay setpoint and restart delay timer.

Restart Delay Setpoint: The Informer MS displays the exact restart delay setting which corresponds to the position of the dial on the MotorSaver<sup>®</sup>.

Real-Time Counter: When the MotorSaver<sup>®</sup> trips, the Informer MS will display the restart delay counter in seconds. Once this counter reaches the restart delay setting, the MotorSaver<sup>®</sup> will restart the motor.

H	i	T	r	p	=	4	5	8	V			V	A	v	g
H	i	R	s	t	=	4	4	5	V			4	2	8	V

**High Voltage Screen:** Displays the high voltage trip point and reset point as well as the real-time average voltage.

High Voltage Trip Point: The MotorSaver<sup>®</sup> will trip off if the average voltage is greater than this value for longer than the trip delay setting.

High Voltage Reset Point: The MotorSaver<sup>®</sup> will not reset until the average voltage is lower than this value.

Average Voltage: The average voltage is conveniently displayed to easily compare it to the high voltage trip and reset points.

L	o	T	r	p	=	3	9	5	V			V	A	v	g
L	o	R	s	t	=	4	0	9	V			4	2	8	V

**Low Voltage Screen:** Displays the low voltage trip point and reset point as well as the real-time average voltage.

Low Voltage Trip Point: The MotorSaver<sup>®</sup> will trip off if the average voltage is lower than this value for longer than the trip delay setting.

Low Voltage Reset Point: The MotorSaver<sup>®</sup> will not reset until the average voltage is greater than this value.

Average Voltage: The average voltage is conveniently displayed to easily compare it to the low voltage trip and reset points.

R	u	n	T	i	m	e	:		R	u	n	n	i	n	g
	0	y			0	d			2	h		2	8	m	

**Run Time Screen:** Displays the status of the MotorSaver<sup>®</sup> and the total motor run time.

MotorSaver<sup>®</sup> Status: The following codes may be displayed:

- § **Running** - The MotorSaver's contacts are energized and the motor is running.
- § **MotorOff** - The MotorSaver's contacts are energized, but the motor is **not** running.
- § **Pend Flt** - A fault is detected. The trip delay timer is incrementing—the MotorSaver<sup>®</sup> will trip when the trip delay setpoint is met. If the fault condition ends, the pending fault will clear and the trip delay timer will decrement back down to zero.
- § **Tripped** - The MotorSaver<sup>®</sup> tripped due to a fault condition. The fault can be viewed on the following screen. Fault #1 is the last fault (most recent), fault #2 the second to last fault, and so on.
- § **Restart** - The MotorSaver<sup>®</sup> is timing through the restart delay on power-up. This is a normal function.  
**OR**  
The MotorSaver<sup>®</sup> tripped due to a fault condition. The condition has cleared and the MotorSaver<sup>®</sup> is timing through the restart delay before energizing the contacts.  
**OR**  
The motor has been turned off and the MotorSaver<sup>®</sup> is timing though the set restart delay to prevent rapid cycling.
- § **Manual** - The MotorSaver<sup>®</sup> tripped, the fault condition has cleared, but the restart delay is set to MAN (manual). Turn the restart delay out of the manual position to allow the motor to restart.  
**OR**  
The MotorSaver<sup>®</sup> is set to MAN (manual) at power-up. Turn the restart delay setting out of MAN to energize the contacts.
- § **CFLckOut** - The MotorSaver<sup>®</sup> Model 455 has tripped due to a load-side problem such as contactor failure, worn or pitted contacts, loose or broken wires, etc. A manual reset is always required when this fault occurs.

Run Time: The definition of run time is the total length of time a particular MotorSaver<sup>®</sup> Model 455 has run a motor—also called “run hours.”

**Note:** To reset the Model 455's run hours, first remove power. Make a note of each of the Model 455's adjustable settings. Turn **all** of the setpoint knobs to the **minimum** position, i.e., VOLT. ADJ. and RESTART fully counter-clockwise; UNBALANCE TRIP AND TRIP DELAY fully clockwise. Apply power momentarily, then remove power again to readjust each setting back to the noted/desired level. Reapply power.

F	I	t	#	1	:	H	V	@		
0	y			0	d	6	h	4	2	M

F	I	t	#	1	:	V	U	B	=	4	%		
		A	v	g	V	o	l	t	=	4	2	6	V

F	I	t	#	1	:	V	A	C	=	4	2	6	
V	B	C	=	4	1	4	V	C	A	=	4	4	4

**Fault Screens:** There are three fault screens for each of the last 20 faults.

Fault: The first fault screen displays the type of fault and the time it occurred in year, day, hour, and minute corresponding to the total motor run time. Fault codes include:

- **HV** – High Voltage
- **LV** – Low Voltage
- **VUB** – Voltage Unbalance
- **SP** – Single Phase
- **RP** – Reverse Phase
- **CF** – Contactor Failure

Fault Unbalance and Average Voltage: The second fault screen displays the line voltage unbalance and average line voltage at the time of the fault.

Fault Line Voltage: The third fault screen displays each line-to-line voltage at the time of the fault.

M	o	t	o	r	S	t	a	r	t			1	@
3	1	y		3	3	5	d	2	0	h	1	4	m

**Motor Start Screen:** There are 32 possible motor start screens. The Informer MS will display the time of each of the last 32 motor starts with #1 being the earliest start and #32 being the latest (most recent) start.

Motor Start: The motor start screen displays the time of each motor start in year, day, hour, and minute corresponding to the total motor run time.

## TROUBLESHOOTING

<p>The Informer MS does not activate when the ON button is pressed.</p>	<p><b>Battery Polarity Reversed</b> – Verify the + and - terminals on the battery match the markings inside the battery compartment.</p>
<p>The COMM STATUS light is off and all display values remain at zero.</p>	<p><b>Low Battery</b> – Replace the battery.</p> <p><b>Weak Signal</b> – Ensure the Informer MS is aimed directly at the MotorSaver's IR LED and is within the operating distance (See Figure 1).</p> <p><b>MotorSaver® Not Transmitting</b> – Verify the MotorSaver® is energized and the green RUN light is illuminated.</p> <p><b>Sunlight</b> – Make sure the sun is not shining directly onto the Informer MS's infrared receiver.</p>
<p>The COMM STATUS light is blinking and/or the display values fluctuate radically.</p>	<p><b>Weak Signal</b> – Ensure the Informer MS is aimed directly at the MotorSaver's IR LED and is within the operating distance (see Figure 1).</p>
<p>The Informer MS displays values even after communication is lost.</p>	<p><b>This Is Normal</b> – The Informer MS holds the last values it received before communication was lost.</p>

## DIMENSIONS



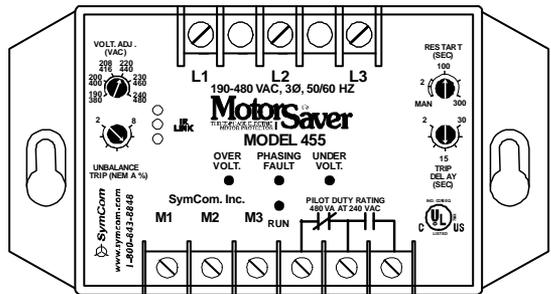
<b>INFORMER MS SPECIFICATIONS</b>	
<b>Power</b>	
Input	9 Volts dc (requires one 9-volt alkaline battery)
Consumption	0.25 Watt (max.)
Automatic shut-off	2 min.
<b>Communication</b>	
Signal	Infrared
Range	1-8 ft.
Data Update	4 seconds
<b>Accuracy</b>	
Voltage	±2%
<b>Resolution</b>	
Voltage	1.0VAC
Voltage Unbalance	1%
Time	1 minute
Trip Delay	2 seconds
Restart Delay	2 seconds
<b>Display (Liquid Crystal)</b>	
Size	2 rows x 16 characters
<b>Keypad (Three 0.5" buttons)</b>	
Mechanical Life	50,000 actuations
Overlay Material	Polyester
<b>Enclosure</b>	
Dimensions	5.50" H x 3.6" W x 1.125" D
Weight	6 oz. (w/o battery)
Material	Black polycarbonate
Operating Temperature	0° to 60°C

### MODEL 455 COMPATIBILITY

In March 2006, an infrared LED transmitter was added to all MotorSaver® Model 455 units to communicate with the Informer MS. If your model 455 includes three small holes to the left of the MotorSaver® logo labeled "IR LINK," it is compatible with the Informer MS.

An auxiliary kit (3 ft. flexible light pipe) attaches to the IR LINK holes on the Model 455 and to the outside of the panel to allow communication without opening the panel door.

The part number for this infrared kit is **Informer MS IR Kit** and is available at a nominal cost.



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