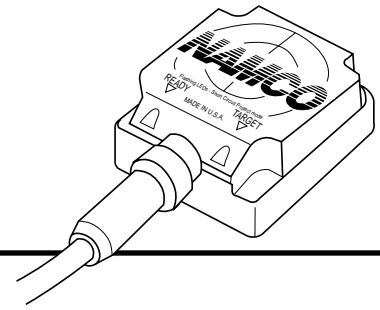


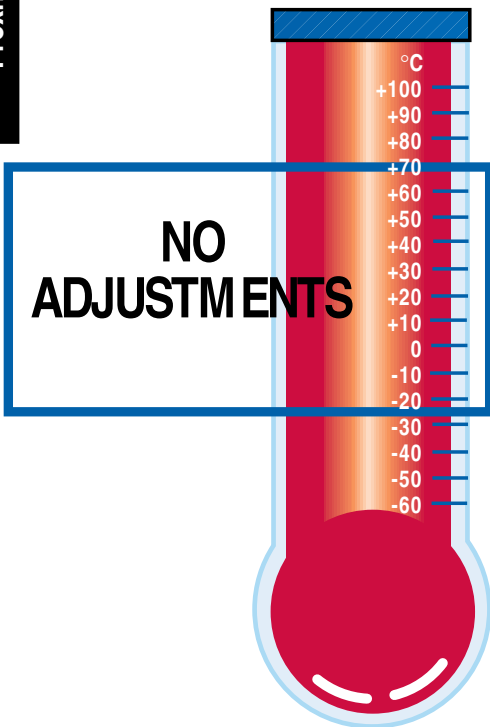
Weld  
Field  
Immune

# Focused Field Long Range Sensors



Proximity Sensors

## Focused Field FlatPak™ Sensor: Range Stable to 70°C, Never Needs Range Adjustments



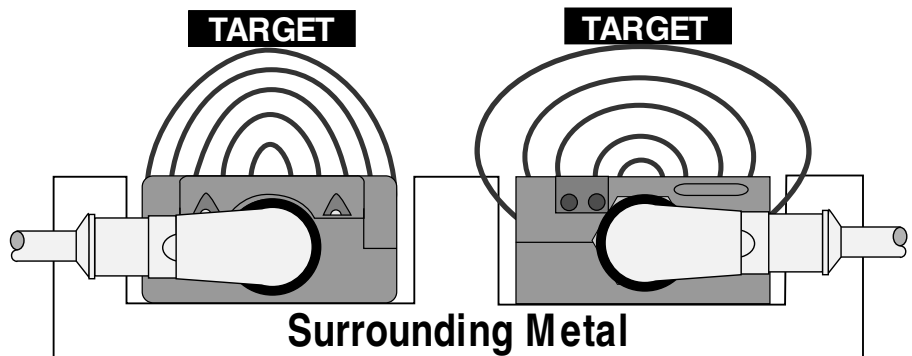
The Namco Focused Field FlatPak™ Proximity Sensor is a Super Heavy Duty, completely encapsulated sensor designed to sense large metal objects at long ranges. It is the first sensor of this body style to offer a focused sensing field.

The focused sensing field allows this sensor to be mounted flush with surrounding metal with only a .25 inch gap between the sensor and the metal surface. This sensor will operate reliably in this setting without sensing range adjustments all year round regardless of changes in ambient temperature.

Competitive sensors have traditionally included a trim pot to enable the user to revise the sensing distance when ambient conditions changed. These sensors were susceptible to substantial growth in sensing range when ambient temperature changed from season to season. They would eventually "lock on" to surrounding metal due to this growth in range and to the un-focused nature of their sensing fields. Only a .25 inch clearance is necessary to insure that the Focused Field FlatPak will never lock on to surrounding metal.

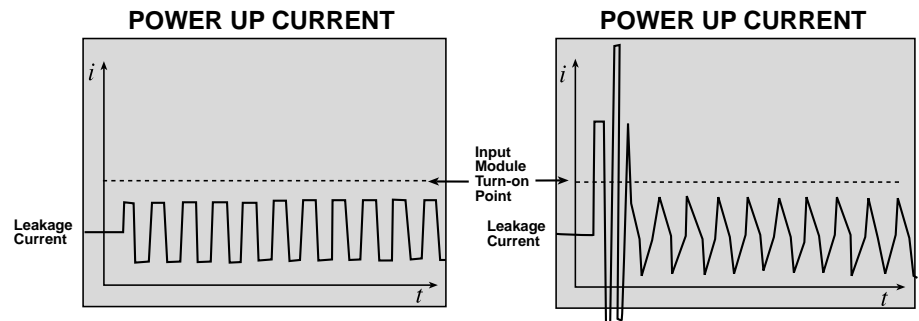
### No TRANSIENTS at Power-Up

The Namco FlatPak sensor has the most noise resistant circuitry in the business, **Namco's patented Weld Field Immune (WFI) circuitry**. Not only will the sensor operate reliably in the presence of 20,000 amp weld fields, it also powers-up glitch-free and is extremely resistant to radio frequency interference and other forms of electrical noise. Problems such as "false detection" and "dropping out" are non-existent, further minimizing programming and maintenance requirements.



Namco FlatPak

Other Extended Range Sensors



Namco Focused Field FlatPak Sensor. A clean wave means predictable performance.

Power-up current draw of competitive sensor will turn on PLC inputs.

### An Easy Upgrade... Directly Replaces Other Extended Range Sensors

The Namco Focused Field FlatPak™ Sensor is designed to directly replace existing sensors of this format. It mounts on 65mm bolt centers and is the only sensor of this type that is made in the USA. It comes with a Lifetime Free Replacement Warranty.



### Assists in Troubleshooting

Namco's WFI circuit includes latching Short Circuit Protection (SCP). If the sensor detects excessive current, it reverts to a sleep state with LEDs alternately flashing. This provides a clear indication of a problem in the circuit, simplifying the troubleshooting task. The sensor draws minimal current (2mA) and can remain in this state indefinitely.

*No sensing range adjustments, ever.*

*Namco Weld Field Immune circuitry is designed to operate in presence of resistance welding electrodes carrying 20,000 Amperes RMS (45,000 Amperes peak).*

*Weld-splatter resistant housing.*

*Super Reliable—Covered by Namco Lifetime Replacement Program.*

*Built-in connector available.*

*Available with either 40mm or 50mm sensing range.*

*Namco's patented latching short circuit protection is very fast acting. Prolonged shorts will not damage electronics; latching feature aids in the diagnosis of troublesome intermittent faults.*

*Available in either 20-150 VAC/DC or 10-30 VDC styles.*

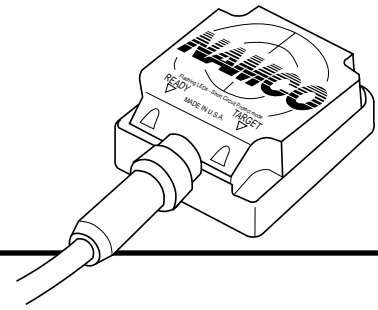
*Only extended range sensor made in the USA.*



*You can mount flush with metal floors or within metal channel.*

**Weld  
Field  
Immune**

# Focused Field Long Range Sensors



Proximity Sensors

- 40mm or 50mm Sensing Range
- “No Adjustment” Sensor
- Flush Mountable - Focused Field Will not Lock on Surrounding Metal
- Easy Upgrade/Direct Replacement
- Sensing Range - Stable From -25°C to 70°C
- Namco Weld Field Immune Circuit
- Clean PowerUp - No Turn-on Transients
- Latching SCP - Simplifies Troubleshooting
- Super Reliable, Fully Epoxy-Encapsulated: Covered by Lifetime Free Replacement Program
- **ONLY SENSOR OF ITS TYPE MADE IN USA**



The NAMCO Focused Field FlatPak™ Proximity Sensor is a Super Heavy Duty, completely encapsulated sensor designed to sense large metal objects at long ranges in tough environments. It is the first sensor of this body style to offer a focused sensing field.

Competitive sensors have traditionally included a trim pot to enable the user to revise the sensing distance when ambient conditions change. These sensors are susceptible to substantial growth in sensing range when ambient temperatures change from season to season. They eventually “lock on” to surrounding metal due to this growth in range and to the unfocused nature of their sensing fields.

The Namco Focused Field FlatPak™ Sensor has two advantages over competitive products that eliminate the need for constant adjustment. **In fact, there are no sensitivity adjustments to be made, ever!!!**

The first advantage is the focused field. The shape of this field minimizes sensing of surrounding metal. When mounted in an identical setting to the competitive switch, it’s sensing range changes less than 10%, and the shape of the field stays focused forward of the switch.

The second advantage is exceptional stability over temperature. The Namco FlatPak’s range will increase a maximum of 10% even at the maximum ambient tempera-

ture, and the shape of the field will continue in a non-side-sensing focused field.

The Namco Focused Field FlatPak™ proximity sensor requires only a .25 inch clearance to surrounding metal. Once installed with this clearance, the sensor will never lock on to surrounding metal.

This Namco FlatPak also includes the most noise resistant circuitry in the business, Namco’s patented Weld Field Immune (WFI) circuitry. Not only will the sensor operate reliably in the presence of 20,000 amp weld fields, it also powers up glitch-free and is extremely resistant to radio frequency interference and other forms of electrical noise. Problems such as “false detection” and “dropping out” are non-existent, further minimizing programming and maintenance requirements.

Namco’s WFI circuit includes latching Short Circuit Protection (SCP). If the sensor detects excessive current, it reverts to a sleep state with LEDs flashing. This provides a clear indication of a problem in the circuit, simplifying the troubleshooting task. The sensor draws minimal current (2 mA) and can remain in this state indefinitely.

The Namco Focused Field FlatPak™ Sensor is designed to directly replace existing sensors of this format. It mounts on 65mm bolt centers and is **the only sensor of this type that is Made in the USA**. It comes with a Lifetime Free Replacement Warranty.

Connector Type	Circuit Description	Housing Material	Housing Dimensions	Model No.	Maximum Load Current	Leakage Current	Voltage Drop*	Maximum Switching Frequency	Short Circuit Protected
<b>40mm SENSING RANGE DC 10-30V</b>									
4-pin Euro	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-86440</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Latching
4-pin Euro	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-86040</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Non-latching
4-pin Mini	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-86400</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Latching
4-pin Mini	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-86000</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Non-latching
<b>40mm SENSING RANGE AC/DC 20-150V</b>									
3-pin Micro	2W, NO	Fortron	79x92x40mm	<b>EE530-86420</b>	200mA	1.7mA	≤10V	15Hz	Latching
3-pin Mini	2W, NO	Fortron	79x92x40mm	<b>EE530-86400</b>	200mA	1.7mA	≤10V	15Hz	Latching
<b>50mm SENSING RANGE DC 10-30V</b>									
4-pin Euro	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-88440</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Latching
4-pin Euro	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-88040</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Non-latching
4-pin Mini	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-88400</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Latching
4-pin Mini	3W, PNP, NO	Fortron	79x92x40mm	<b>EE510-88000</b>	200mA	<10µA	<2.5V @ 200mA	15Hz	Non-latching
<b>50mm SENSING RANGE AC/DC 20-150V</b>									
3-pin Micro	2W, NO	Fortron	79x92x40mm	<b>EE530-88420</b>	200mA	1.7mA	≤10V	15Hz	Latching
3-pin Mini	2W, NO	Fortron	79x92x40mm	<b>EE530-88400</b>	200mA	1.7mA	≤10V	15Hz	Latching

Note: For Minimum-On-Delay\* versions of any of the part numbers above - Replace the “0” at the end of the part number with a “5”.

(i.e.: EE510-86445 is the Minimum-On-Delay version of the EE510-86440).

\* Minimum-On-Delay provides an output “On” for a minimum 0.5 sec., no matter how short a period the target is present.

## Common Sensor Characteristics

FLATPAK PROXIMITY SENSORS		
Supply Voltage	10-30V DC	20-150V AC/DC
Voltage Drop	≤ 2.5V @ 200mA	≤ 10V
	≤ 2.0V @ ≤ 100mA	
Max. Load Current @ 25°C	200mA	
Inrush Current (rms 1Hz)	-	1.5A
Leakage Current	10µA	1.7mA
Sensing Range	40mm/50mm	
Response Time	30ms	
Power-up Time	70ms	
Max. Switching Frequency	15Hz	
Ambient Temp. Range	-25°C to 70°C (-13°F to 158°F)	

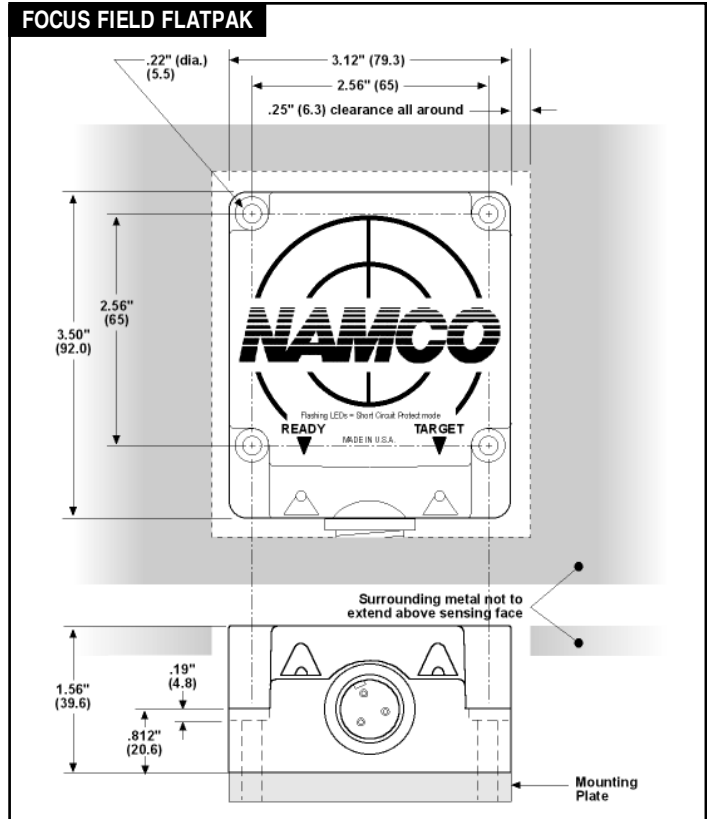
## LED Functions

	10-30V DC		20-150V AC/DC	
	Green	Amber	Red	Green
Power Off	Off	Off	Off	Off
Power On Load De-energized	On	Off	On	Off
Power On Load Energized	On	On	Off	On
* SCP Mode Activated	Flashing		Flashing	

\* Short Circuit Protection: If the sensor is shorted, the sensor's Short Circuit Protection (SCP) will be activated. When this occurs, both LEDs will flash and the sensor will limit current flow to about 2.0mA.

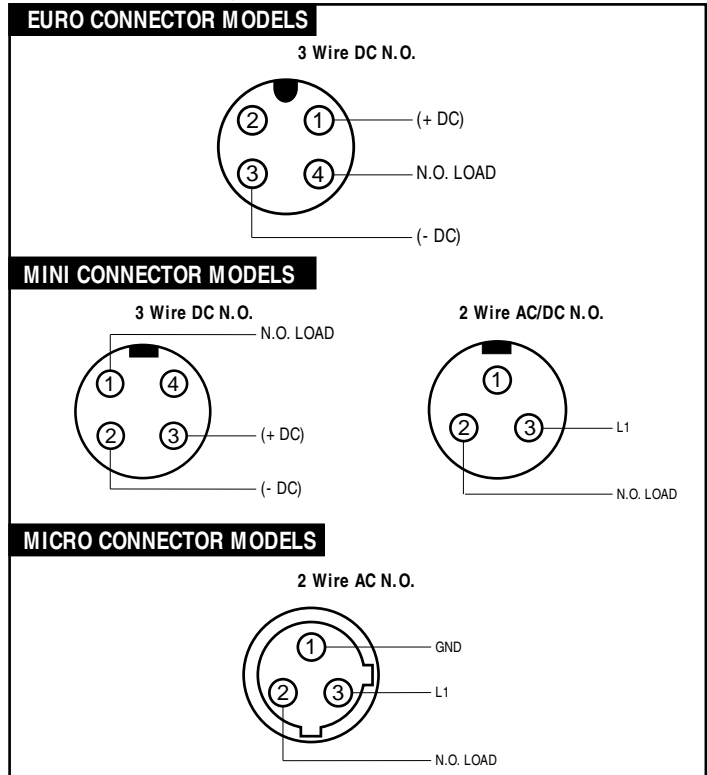
## Dimensional Drawings

# EE500



Proximity Sensors

## Circuit Drawings



# NAMCO

2013 West Meeting Street • Lancaster, SC 29720  
 1-803-286-8491 • FAX: 1-800-678-6263  
[www.namcocontrols.com](http://www.namcocontrols.com)

For technical assistance, call 1-800-NAMTECH