

# Ex Safety and Installation Instructions GS030 Slew sensor Transmitter & GS031 Slew Sensor Encoder



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## Ex Safety and Installation Instructions GS030 & GS031 Slew Sensor

### SCOPE

This Ex instruction manual must be read and used by qualified personnel during system design and installation of the GS030 Slew Sensor Transmitter and the GS031 Slew Sensor Encoder. These instructions are provided as an addendum to the standard product manuals.

Ex models covered:

MODEL	DESCRIPTION
GS030-10	Slew Sensor Transmitter
GS031-10	Slew Sensor



### Warning

The GS030 & GS031 are Group IIC Ex ia certified intrinsically safe apparatus which may be installed in Hazardous Area Zone 0, Zone 1 or Zone 2.

The GS030 & GS031 must be operated within environmental limitations.

The GS030 & GS031 must only be installed by qualified personnel in accordance with the relevant international installation standards

The GS030 & GS031 cannot be repaired by the end user thus any units exhibiting a failure must be returned to the manufacturer.

### SAFETY ANALYSIS

In a system safety analysis, always check that the Hazardous Area / Hazardous location devices conform to the relevant standards.

### INSTALLATION

The GS030 & GS031 are fully self-contained and require no special grounding techniques. The GS030 & GS031 have an IP66 rating with fully potted internal electronics and are intended to be mounted outdoors.

### OPERATION

The GS030 is a battery-powered stand-alone device with no interconnecting cables other than the connection to the GS031.

Proper operation of the GS030 is indicated by a green LED flashing periodically. Failure of the LED flashing can indicate either a dead battery or no receiver is present within RF Range.

### STARTUP

The GS030 contains a battery and will automatically power on and off when a remote receiver is detected, thus there are no power cables or power switches.

When a GS030 detects a remote receiver the green LED will flash on and off periodically. This indicates successful communication with the remote receiver.

If there is not a green LED flashing periodically it means either there is not a remote display turned on or the internal battery is dead.

## Ex Safety and Installation Instructions GS030 & GS031 Slew Sensor

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### BATTERY REPLACEMENT PROCEDURE

Only the battery specified here may be used as a replacement:

LSI ORDER CODE	MANUFACTURER	MANU PART NUMBER	DESCRIPTION
TB015	TADIRAN	TL5930	3.6V 19Ahr Lithium D-cell

Using another battery may impact the intrinsic safety of the product.

- Step 1) Remove the four screws securing the cover to the enclosure body and then remove the cover.
- Step 2) Remove the old battery by hand.
- Step 3) Install the new battery. **MAKE SURE THE POLARITY IS CORRECT.** Insert the positive end and then push in the direction of the positive pole.
- Step 4) Re-position the battery cover on the sensor body.
- Step 5) Insert the screws, **DO NOT OVERTIGHTEN.**

### STORAGE

The ambient temperature may exceed the operating temperature limits of -20°C to +40°C without damage for limited periods of time such as may be experienced during air transport.



### DISPOSAL

Please separate and dispose of electronic goods responsibly and follow guidelines and regulations for your region.

## Ex Safety and Installation Instructions GS030 & GS031 Slew Sensor

### SPECIFICATIONS

GS030:







Compliance	ATEX Certificate Number	Sira 12ATEX2169X
	Temperature Classification	T4, $-20^{\circ}\text{C} \leq T_{amb} \leq +40^{\circ}\text{C}$
Product Markings	ATEX	Ex ia IIC T4 Ga $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ Sira 12ATEX2169X
		 
Quality Assurance Notification		TRAC 0891
LED Indicators	Communicating	Green
Power Supply	Voltage	3.6 VDC nominal
	Current	30 milliamps
Physical	Dimensions	270mm x120mm x 90mm (l x w x d)
	Weight	0.95 kg
	Material	Powder coated Aluminum & Stainless Steel
	IP Rating	66
Environmental	Operating Temperature	$-20^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
	Humidity	0 to 100%

GS031:

Compliance	ATEX Certificate Number	Sira 12ATEX2169X
	Temperature Classification	T4, $-20^{\circ}\text{C} \leq T_{amb} \leq +40^{\circ}\text{C}$
Product Markings	ATEX	N/A
Quality Assurance Notification		TRAC 0891
LED Indicators	Communicating	Green
Power Supply	Voltage	3.6 VDC nominal
	Current	30 milliamps
Physical	Dimensions	(See datasheet for details)
	Weight	0.45 kg
	Material	Stainless Steel & Aluminum
	IP Rating	66
Environmental	Operating Temperature	$-20^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
	Humidity	0 to 100%

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### INSTALLATION CONTROL DRAWING

Hazardous Area	Hazardous Area	Safe Area
<p style="text-align: center;">Ex ia IIC T4 -20°C &lt; Tamb &lt; +40°C</p> <p style="text-align: center;">Sira 12ATEX2169X</p> <div style="text-align: center;">  <p>GS030 Slew Transmitter</p> </div> <div style="text-align: center;">  <p>GS030 Slew Sensor</p> </div>	<p style="text-align: center;">Ex d IIB T4 -30°C &lt; Tamb &lt; 60°C</p> <p style="text-align: center;">TRAC12ATEX0040X</p> <div style="text-align: center;">  <p>GS820-10</p> </div>	<p style="text-align: center;">n/a</p> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div>
<p>Notes:</p> <ol style="list-style-type: none"> <li>1) Operating temperature range -20°C &lt; Tamb &lt; +40°C</li> <li>2) Installation and maintenance must only be done by competent personnel</li> <li>3) Battery replacement shall only be accomplished if no explosive gas may be present</li> <li>4) Installation shall be in accordance with 60079.14 and other local regulations as may be required I</li> <li>5) Dissimilar metal contact should be avoided.</li> </ol>	<p>Notes:</p> <ol style="list-style-type: none"> <li>1) Operating temperature range -30°C &lt; Tamb &lt; +60°C</li> <li>2) See Installation Instruction GM820-10&amp;11_rev1_20120902</li> <li>3) Installation and maintenance must only be done by competent personnel</li> <li>4) GS820-xx must be returned to factory for service</li> <li>5) Installation shall be in accordance with 60079.14 and other local regulations as may be required I</li> <li>6) Dissimilar metal contact should be avoided.</li> </ol>	<p>Notes:</p> <ol style="list-style-type: none"> <li>1) Operating temperature range -30°C &lt; Tamb &lt; +60°C</li> <li>2) Installation and maintenance must only be done by competent personnel</li> <li>3) Installation shall be in accordance local regulations as may be required</li> <li>4) Dissimilar metal contact should be avoided.</li> </ol>

## EC Declaration of Conformity

Issued in accordance with the ATEX Directive 94/9/EC

### Manufacturer:

Load Systems International Inc.  
2666 boul. du Parc Technologique, Suite 190  
Québec, QC G1P 4S6

### Products:

GS030-10 Slew Sensor Transmitter  
GS031-10 Slew Encoder

*are in conformity with the provisions of the Directive 94/9/EC for use in potentially explosive atmosphere*

### Marking:

 II 1G      Ex ia IIC T4 Ga

### Harmonized Standards:

IEC 60079-0:2011  
Explosive Atmosphere - Equipment - General Requirement  
EN 60079-11:2012  
Explosive Atmosphere - Equipment protection by intrinsic safety "i"  
EN 60079-26:2007  
Explosive Atmosphere - Equipment with equipment protection level (EPL) Ga

### EC Type Examination Certificate:

**Sira 12ATEX2169X**  
Sira Certification Service, Notified Body number 0518  
Rake Lane, Eccleston, Chester, CH4 9JN  
England

### Production Quality Assurance Notification:

**TRAC12QAN0007**  
Unit 1, Pendle Place, Skelmersdale, WN8 9PN  
United Kingdom

Québec, May 28<sup>th</sup>, 2014



Éric Beaulieu  
Technologies Manager

**Document Revision History**

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**Revision History**

Rev	Date	Description	Approved
1	01-22-2015	Draft Release.	M. Chouinard

Any changes to this document must be approved by the Hazardous Area Systems Manager