

## **IPS-Beacon™**

Condition monitoring and alert system  
for vibration and temperature

PCN = 26999949 03-13 (E). Original instructions.

## **Installation Operation Maintenance**



***These instructions must be read prior to installing,  
operating, using and maintaining this equipment.***

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## 1 INTRODUCTION AND SAFETY

### 1.1 General



***These instructions must always be kept close to the product's operating location or directly with the product.***

Flowserve products are designed, developed and manufactured with state-of-the-art technologies in modern facilities. The unit is produced with great care and commitment to continuous quality control, utilizing sophisticated quality techniques, and safety requirements.

Flowserve is committed to continuous quality improvement and being at your service for any further information about the product in its installation and operation or about its support products, repair and diagnostic services.

These instructions are intended to facilitate familiarization with the product and its permitted use. Operating the product in compliance with these instructions is important to help ensure reliability in service and avoid risks. The instructions may not take into account local regulations; ensure such regulations are observed by all, including those installing the product. Always coordinate repair activity with operations personnel, and follow all plant safety requirements and applicable safety and health laws and regulations.



***These instructions must be read prior to installing, operating, using and maintaining the equipment in any region worldwide. The equipment must not be put into service until all the conditions relating to safety, noted in the instructions, have been met. Failure to follow and apply the present user instructions is considered to be misuse. Personal injury, product damage, delay or failure caused by misuse are not covered by the Flowserve warranty.***

### 1.2 CE Marking and approvals

It is a legal requirement that machinery and equipment put into service within certain regions of the world shall conform with the applicable CE Marking Directives covering Machinery and, where applicable, Low Voltage Equipment, Electromagnetic Compatibility (EMC), Pressure Equipment Directive (PED) and Equipment for Potentially Explosive Atmospheres (ATEX).

Where applicable, the Directives and any additional Approvals, cover important safety aspects relating to

machinery and equipment and the satisfactory provision of technical documents and safety instructions. Where applicable this document incorporates information relevant to these Directives and Approvals.

To confirm the Approvals applying and if the product is CE marked, check the serial number plate markings and the Certification. (See section 9, *Certification*.)

### 1.3 Disclaimer

***Information in these User Instructions is believed to be complete and reliable. However, in spite of all of the efforts of Flowserve Corporation to provide comprehensive instructions, good engineering and safety practice should always be used.***

Flowserve manufactures products to exacting International Quality Management System Standards as certified and audited by external Quality Assurance organizations. Genuine parts and accessories have been designed, tested and incorporated into the products to help ensure their continued product quality and performance in use. As Flowserve cannot test parts and accessories sourced from other vendors the incorrect incorporation of such parts and accessories may adversely affect the performance and safety features of the products. The failure to properly select, install or use authorized Flowserve parts and accessories is considered to be misuse. Damage or failure caused by misuse is not covered by the Flowserve warranty. In addition, any modification of Flowserve products or removal of original components may impair the safety of these products in their use.

### 1.4 Copyright

All rights reserved. No part of these instructions may be reproduced, stored in a retrieval system or transmitted in any form or by any means without prior permission of Flowserve.

### 1.5 Duty conditions

This product has been selected to meet the specifications of your purchase order. The acknowledgement of these conditions has been sent separately to the Purchaser. A copy should be kept with these instructions.



***The product must not be operated beyond the parameters specified for the application. If there is any doubt as to the suitability of the product for the application intended, contact Flowserve for advice.***

If the conditions of service on your purchase order are going to be changed (for example liquid pumped, temperature or duty) it is requested that the user seeks the written agreement of Flowserve before start up.

## 1.6 Safety

### 1.6.1 Summary of safety markings

These User Instructions contain specific safety markings where non-observance of an instruction would cause hazards. The specific safety markings are:



**DANGER**

This symbol indicates electrical safety instructions where non-compliance will involve a high risk to personal safety or the loss of life.



This symbol indicates safety instructions where non-compliance would affect personal safety and could result in loss of life.



This symbol indicates “hazardous and toxic fluid” safety instructions where non-compliance would affect personal safety and could result in loss of life.



**CAUTION**

This symbol indicates safety instructions where non-compliance will involve some risk to safe operation and personal safety and would damage the equipment or property.



This symbol indicates explosive atmosphere zone marking according to ATEX. It is used in safety instructions where non-compliance in the hazardous area would cause the risk of an explosion.



This symbol is used in safety instructions to remind not to rub non-metallic surfaces with a dry cloth; ensure the cloth is damp. It is used in safety instructions where non-compliance in the hazardous area would cause the risk of an explosion.

**Note:**

This sign is not a safety symbol but indicates an important instruction in the assembly process.

### 1.6.2 Personnel qualification and training

All personnel involved in the operation, installation, inspection and maintenance of the unit must be qualified to carry out the work involved. If the personnel in question do not already possess the necessary knowledge and skill, appropriate training and instruction must be provided. If required the operator may commission the manufacturer/supplier to provide applicable training.

Always coordinate repair activity with operations and health and safety personnel, and follow all plant safety requirements and applicable safety and health laws and regulations.

### 1.6.3 Safety action

***This is a summary of conditions and actions to help prevent injury to personnel and damage to the environment and to equipment. For products used in potentially explosive atmospheres section 1.6.4 also applies.***



**DANGER**

NEVER DO MAINTENANCE WORK WHEN THE UNIT IS CONNECTED TO POWER (Lock out.)



**HANDLING COMPONENTS**

Many precision parts have sharp corners and the wearing of appropriate safety gloves and equipment is required when handling these components. To lift heavy pieces above 25 kg (55 lb) use a crane appropriate for the mass and in accordance with current local regulations.

### 1.6.4 Products used in potentially explosive atmospheres



Measures are required to:

- Avoid excess temperature
- Prevent buildup of explosive mixtures
- Prevent the generation of sparks

## 1.7 Specific machine performance

For performance parameters see section 1.5 *Duty conditions*. Where performance data has been supplied separately to the purchaser these should be obtained and retained with these User Instructions if required.

## 2 TRANSPORT AND STORAGE



Make sure that hazardous substances are disposed of safely and that the correct personal protective equipment is used. The safety specifications must be in accordance with the current local regulations at all times.

### 2.1 Consignment receipt and unpacking

Immediately after receipt of the equipment it must be checked against the delivery/shipping documents for its completeness and that there has been no damage in transportation. Any shortage and/or damage must be reported immediately to Flowserve and must be received in writing within ten days of receipt of the equipment. Later claims cannot be accepted.

Check any crate, boxes or wrappings for any accessories or spare parts that may be packed separately with the equipment or attached to side walls of the box or equipment.

Each product has a unique serial number. Check that this number corresponds with that advised and always quote this number in correspondence as well as when ordering spare parts or further accessories.

## 2.2 Handling

Boxes, crates, pallets or cartons may be unloaded using fork lift vehicles or slings dependent on their size and construction.

## 2.3 Storage



Store the equipment in a clean, dry location away from vibration. Leave protective covers in place to keep dirt and other foreign material out of casing.

### 2.3.1 Storage and packaging

Normal packaging is designed to protect the unit and parts during shipment and for dry, indoor storage.

After unpacking, protection will be the responsibility of the user.

## 2.4 Recycling and end of product life

At the end of the service life of the product or its parts, the relevant materials and parts should be recycled or disposed of using an environmentally acceptable method and in accordance with local regulations. If the product contains substances that are harmful to the environment, these should be removed and disposed of in accordance with current local regulations.

## 2.5 Disposal Instructions



At the end of the product's life, do not dispose of any electronic component or instrument in the domestic waste. Disposal should be done in accordance with applicable regulations, which vary from state to state and country to country. The IPS Beacon unit includes a built-in battery and should be disposed of in accordance with applicable battery disposal regulations. Batteries should not be incinerated, unless suitable procedures are followed and qualified handlers have taken appropriate precautions. Exposure of these cells to high temperatures or fire can cause the cells to vent and/or rupture. These cells do not contain dangerous substances. The reaction products are inorganic and do not represent environmental hazards, once the decomposition or neutralization process has terminated.

### Disposal in Europe

Batteries for disposal should not be transported by air. For road transport of dangerous goods ADR special provision 636 and packing instruction 903a apply.

### Disposal in US

Hazardous waste of spent batteries can be disposed after they are first neutralized through an approved secondary treatment prior to disposal. Disposal of spent batteries should be performed by authorized, professional disposal company, which has the knowledge in the requirements of the Federal, the State and the Local authorities regarding hazardous materials, transportation and waste disposal. In any case it is recommended to contact the local EPA office.

## 3 DESCRIPTION

The IPS Beacon is a cost effective means of measuring the basic health of equipment. It is designed to quickly convey the health of any equipment it is attached to, based on vibration and temperature measurements.

The IPS Beacon is a battery powered unit that offers the ability to measure 3-axis vibration and temperature of any equipment it is attached to. The IPS Beacon is completely encapsulated including battery, electronics and sensor packaged inside a 316L SS case. The IPS Beacon also provides two LED indicator lights for a quick visualization of equipment health.

### 3.1 Configurations

Base IPS Beacon unit is provided with preset factory set points. Each unit also offers optional upgrades to allow for data logging [see section 3.5 *Take away memory module (TAM)*], data downloads to a PC format and unit configuration.

The IPS Beacon offers the ability to program alarm levels for each of the vibration axes (see Figure 3: X-Y-Z axis orientation) and temperature values. If those alarm levels are exceeded, the IPS Beacon will provide a visual indication using the LED indicator lights and also log the last alarm value for each of the data parameters.

#### 3.1.1 Factory preset alarm settings

The IPS Beacon comes pre-programmed with the following default settings for the user-configurable options:

**Table 1: IPS Beacon factory default settings**

Parameter	Default setting (metric units)	Default setting (US units)
X-axis vibration alarm level	9.4 mm/s	0.38 in./sec
Y-axis vibration alarm level	9.4 mm/s	0.38 in./sec
Z-axis vibration alarm level	9.4 mm/s	0.38 in./sec
Temperature alarm level	85 °C	185 °F
Vibration readings type	RMS	
Data log interval	5 minutes	
Average number of readings for alarm limit	2 readings	

See section 5, *Custom configuration programming*, to change any of the above settings.

### 3.2 Alarm mode

By default the IPS Beacon enters alarm mode when the average of two readings, of either vibration or temperature, exceed the predefined alarm limits. Alarm mode is indicated with a flashing red light. The user should do a physical detailed analysis of the equipment being monitored when the alarm is activated. (See Table 2: *LED indicator lights description with PUM installed*.)

**Table 2: LED indicator lights description with PUM installed**

LED	State	Description
GREEN	3 quick flashes	Indicates that IPS Beacon has been powered on
GREEN	Flash every 5 seconds	Normal operation – vibration and temperature are within acceptable limits
RED	Flash every 5 seconds	Current alarm – one of the measurements has exceeded its alarm limit and has not returned within the acceptable range
RED & GREEN	Flash every 5 seconds	Alarm – one of the measurements previously exceeded its alarm limit, but has now returned within the acceptable range

### 3.3 Performance and operation limits

This product has been selected to meet the specification of your purchase order.

The following data is included as additional information to help with your installation. This is typical information and if required, a definitive statement for your application can be obtained from Flowserve.

### 3.3.1 IPS Beacon nomenclature

**Table 3: IPS Beacon nomenclature**

Flowserve item code	Generic designation	Specifications	Material
9050	VB-105	IPS Beacon compact monitor	316L SS
	Fastener	M6 (¼ - 28)	18-8



This product must not be operated beyond the parameters specified for the application. If there is any doubt as to the suitability of the product for the application intended, contact the manufacturer for advice.



IPS Beacon material compatibility is the responsibility of the end user.

### 3.3.2 Sensor specifications

**Table 4: IPS Beacon and sensor specifications**

IPS Beacon components	
Channels (internal)	1-battery voltage, 1-onboard temperature, 3-vibration (X, Y, Z)
Measurement rates	1 to 60 minutes
Ambient temperature	-40 °C (-40 °F) to +85 °C (185 °F)
Power requirement	3.6 VDC internal battery pack
Outer shell	316LSS with Borosilicate glass lens
Mounting	M6 (¼ x 28) stud mount
IPS Beacon sensor components	
Variable	Limit
Vibration (velocity)	Tri axis 0-25 mm/s (0 – 1 IPS) peak or RMS. Accuracy +/- 10 % full scale
Surface temperature (T <sub>s</sub> ) measurement range	-40 °C (-40 °F) ≤ T <sub>s</sub> ≤ +93.33 °C (200 °F). Accuracy +/-2.8 °C (5 °F)
IPS Beacon operational state	Battery life
Normal operating and environmental conditions	4 years with 5 minute sampling
Alarm mode	4 years

Note: Measurement accuracy for surface temperature (range -40 to 93.33 °C) and vibration (range 0 to 25 mm/s) is absolute accuracy of the measurement relative to a known, calibrated device. Values shown represent the expected performance operating under steady state conditions at 23 °C (73 °F) with no external interferences.  
 Note: The IPS Beacon temperature measurement is optimized for surface temperature readings of an operating bearing housing.

### 3.3.3 Battery



**The IPS Beacon battery is not replaceable.**

You must replace the entire unit once the battery runs out of power. The battery life is not covered as part of the standard device warranty. Table 4 shows the average battery life under normal and alarm mode operating conditions.

### 3.4 Power-up module (PUM)

The Power-up module (PUM) must be attached to the IPS Beacon to turn on the unit. When disconnected from the IPS Beacon, the unit remains off and does not take any sensor readings.

**Note:** the PUM provides on/off functionality only.

### 3.5 Take away memory module (TAM)

The optional take-away memory module (TAM) powers-up the IPS Beacon unit and downloads sensor data from the unit. When connected to the IPS Beacon unit the TAM will log the sensor data as it is recorded on every interval.

The TAM module has enough built-in memory to capture approximately 28 000 sensor data readings. Depending on how often the IPS Beacon unit is set to log data, the amount of time varies for which the TAM can capture sensor readings. See section 5, *Custom configuration programming*, to adjust the data logging/read interval for the IPS Beacon.

## 4 MAINTENANCE



**Warning:** Do not open unit.



**Warning:** battery pack is not replaceable. Do not attempt to replace.

Power is provided by a lithium battery pack, located in the IPS Beacon housing. Battery life depends upon measurement intervals.

### 4.1 Tools required

A typical range of tools that will be required to maintain the IPS Beacon is listed below:

- PC computer with USB adapter
- Dock software configuration utility
- IPS Beacon dock module (VB-101-DOCK)
- Hand wrenches
- Phillips-head screwdriver

### 4.2 Turning unit on/off

The IPS Beacon is shipped in the off position and you will be required to remove protective tape and the spacer that keeps the PUM in the off position. Discard the tape and spacer and follow the power up procedure below.

To power up the IPS Beacon, simply install the PUM to the DB9 on the side of the unit and insert the screw into the PUM (tighten screw to 0.7 Nm (6 in.·lb) torque to keep PUM tightly fastened to IPS Beacon).

The green LED will flash 3 times in succession to confirm power-up. This will activate sensor readings and alarm indications at the pre-configured levels.

To power off the IPS Beacon remove the power-up module (PUM) from the DB9 on the side of the unit. This will stop any sensor readings.

**Note:** The TAM can also be used to turn the IPS Beacon on or off in place of the PUM.

### 4.3 Low battery



**The battery pack is NOT user replaceable.**

Low batteries can only be remedied by replacing the entire IPS Beacon unit.

Power is provided by a non-replaceable battery pack, located in the inner portion of the unit. Battery life is typically 4 years, dependent on data reading interval. Battery voltage should normally be between 2.8 and 3.6 VDC. If it is lower than this, the entire IPS Beacon unit will need to be replaced.

## 5 CUSTOM CONFIGURATION PROGRAMMING

**Note:** This section is optional. As long as your specific application was communicated to the factory prior to shipment, the IPS Beacon unit is pre-configured for your specific use.



**Warning:** errors in programming can render the IPS Beacon unit inoperable; proceed with caution. Flowserve is not liable for any damage caused by programming errors.

In order to perform any of the functions described in this section, you will first need to connect to the IPS Beacon unit using the software configuration utility as described below in section 5.2, *Connecting to the IPS Beacon unit*.

### 5.1 User configurable settings

The IPS Beacon provides certain settings that can be configured by the user. These parameters are listed in table 5 below:

**Table 5: IPS Beacon user configurable settings**

Parameter	Default units	Description
X-axis vibration alarm level	mm/s (in./sec)	X-axis vibration level above which IPS Beacon will register an alarm
Y-axis vibration alarm level	mm/s (in./sec)	Y-axis vibration level above which IPS Beacon will register an alarm
Z-axis vibration alarm level	mm/s (in./sec)	Z-axis vibration level above which IPS Beacon will register an alarm
Temperature alarm level	°C (°F)	Temperature level above which IPS Beacon will register an alarm
Readings/average	-	Number of readings averaged for alarm limit comparison
Data read interval	Seconds	How often IPS Beacon reads sensor data

## 5.2 Connecting to IPS Beacon unit

Required hardware: PC with USB adapter and VB-101-DOCK  
 Required software utility: DockTalk configuration utility

Disconnect the PUM or TAM from the IPS Beacon while at the equipment in the field to assure no erroneous data is taken during transport. Next, remove the IPS Beacon from the equipment and take it to the VB-101 Dock in a general purpose area classification. If you do not have a Dock, refer to section 8 *Parts List and Drawings*, for the Flowserve part number to obtain one.

For details on connection to the Dock, refer to the Dock IOM (PCN 26999975)

## 5.3 Setting alarm set points

The IPS Beacon unit can have high alarm levels programmed for each data parameter. When the alarm level threshold is exceeded for any data parameter, the IPS Beacon unit will flash the red LED indicator light. (See Table 2: *LED indicator lights description with PUM installed*, for more detail.)

To program alarms, refer to Dock IOM (PCN 26999975).



**Figure 1: IPS Beacon unit and TAM connected to VB-101 Dock**

## 5.4 Setting time and date on IPS Beacon unit

The date and time on the IPS Beacon unit can be set to ensure accurate timestamps when viewing data from the unit.

For details, refer to the Dock IOM (PCN 26999975).

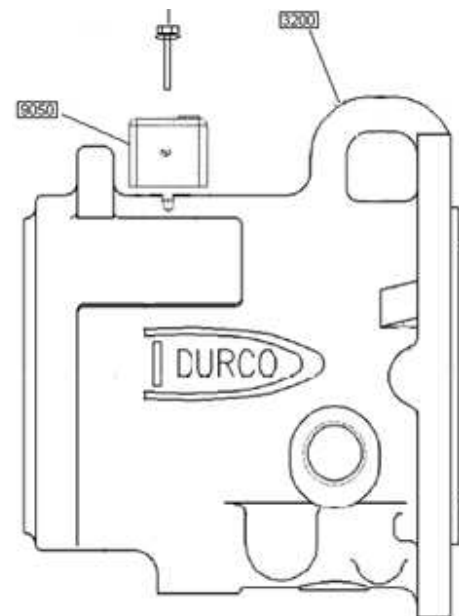
## 5.5 Reloading factory configuration

To reload the original factory configuration into the IPS Beacon unit you will need a copy of the original CSV configuration file for your particular unit. You may have a copy of this file from an earlier saved version that was exported from the IPS Beacon software utility or you may contact the Flowserve factory to obtain a copy of this file.

For details, refer to the Dock IOM (PCN 26999975).

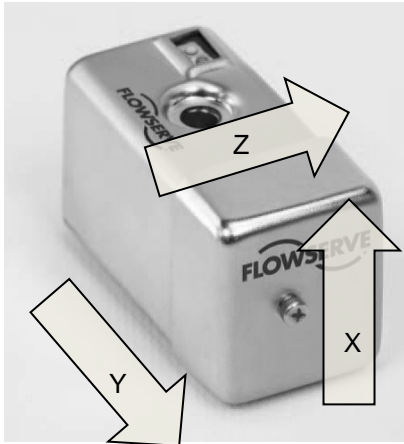
## 6 INSTALLATION

**CAUTION** Always wear protective gloves as pump and IPS Beacon can be hot.

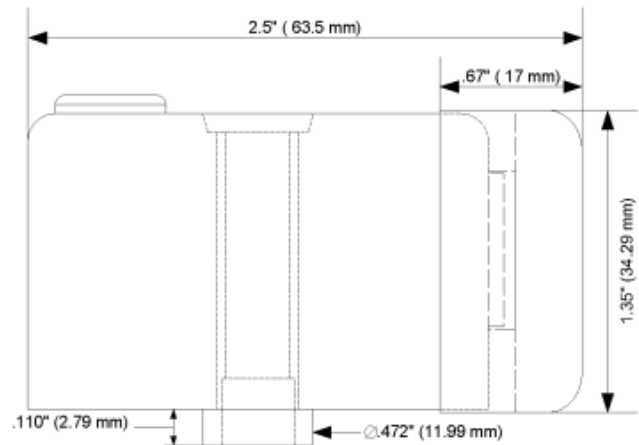
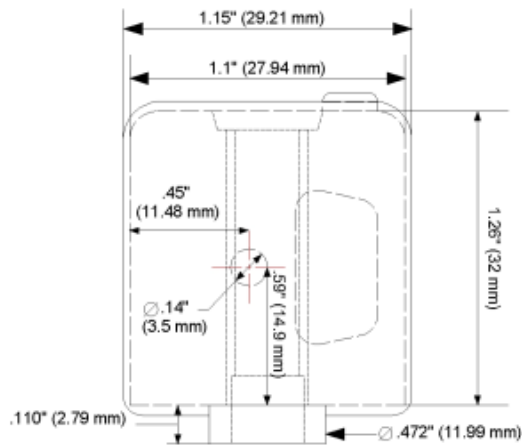
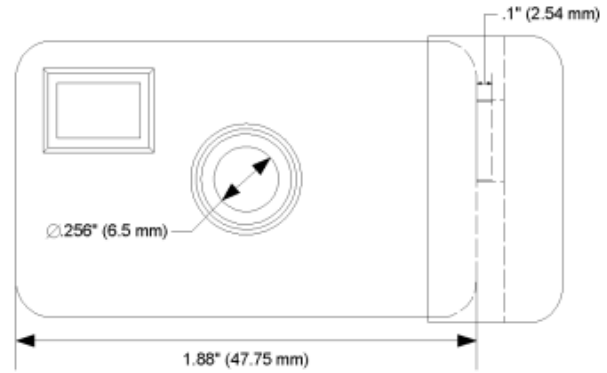


**Figure 2: Example drawing of IPS Beacon installation on a Durco pump**





**Figure 3: X-Y-Z axis orientation**



**Figure 4: IPS Beacon drawing**

Part #: M1-0103

316 L



**Figure 5: IPS Beacon mounting pad**

## 6.1 Tools required

- Open end wrench set
- Phillips-head screwdriver, set at 0.7 Nm (6 in.•lb) torque.)

## 6.2 Unpacking

**Note:** This section is only applicable if the IPS Beacon has not already been installed on a pump by the factory.

Carefully open package received from factory and remove protective wrapping from IPS Beacon unit and accessories. Inspect all hardware for damage. Report any damage to shipping carrier immediately.

Ensure you have received the correct units and accessories for your application. Cross-check hardware received versus packing slip and purchase order.

Record unit serial numbers for future reference.

## 6.3 Preliminary operational check

After unpacking and before installation, perform the following operational check on the unit:

1. Remove the protective tape and spacer from PUM.
2. Remove the pre-attached PUM from the IPS Beacon unit.
3. Attach the PUM to the DB9 port on the side of the unit. This turns on the IPS Beacon unit.
4. Confirm the green LED light blinks 3 times for PUM (3 single and 3 double flashes for the TAM) to signify power-on status.
5. Remove the PUM from the DB9 port to power down the unit.

In case of issues with powering up the unit, refer to section 10 *Trouble-Shooting Guide*.

## 6.4 Attachment options

The IPS Beacon is designed to be mounted in a horizontal position to the equipment being monitored. This will allow for correct classification of the 3 axes on the vibration sensor, which is especially important if the alarm limits are set to different values on each axis. (See Figure 3: X-Y-Z axis orientation.)

The IPS Beacon can be attached to equipment with a M6 (¼ in.-28) stud, with the IPS Beacon placed so the stud comes through the mounting hole in the center of the unit. Also, on equipment with a M6 (¼ in.-28) threaded tap, the IPS Beacon can be placed over this tap and a 6 mm (¼ in.) stud inserted through the IPS Beacon and threaded into the tap.

Attach IPS Beacon [9050] to bearing housing [3200] using Phillips-head fastener (M6 or ¼ in. x 28 18-8SS stud). An alternative is to attach the IPS Beacon to the mounting pad using the hex head fastener and then epoxy the mounting pad to the housing surface. (See figure 5.)

Tighten the hex head screw with a Phillips head screwdriver to 0.7 Nm (6 in.•lb) torque.


## 6.5 LED Indications


The IPS Beacon has two LED indicator lights to signify various states. See table below for description of each state.

**Table 6: LED indicator lights state description**

LED	State	Description
GREEN	3 quick flashes	Indicates that IPS Beacon has been powered on with the PUM
GREEN	Flash every 5 seconds	Normal operation – vibration and temperature are within acceptable limits
RED	Flash every 5 seconds	Current alarm – one of the measurements has exceeded its alarm limit and has not returned within the acceptable range
RED & GREEN	Flash every 5 seconds	Alarm – one of the measurements previously exceeded its alarm limit, but has now returned with the acceptable range
RED	Flash every 1 second	Low battery – replace IPS Beacon
RED	Solid	Battery is completely depleted – replace IPS Beacon

## 7 ACTIVATE THE IPS-BEACON

 **CAUTION** Never heat the IPS Beacon to temperatures in excess of 121 °C (250 °F). Heating past this temperature could result in mechanical failure.

 **CAUTION** Always wear protective gloves as pump and IPS Beacon can be hot.

### 7.1 Power-up module (PUM)

The power-up module (PUM) has protective tape and an insert which must be removed before activation: remove the tape and screw attaching the PUM to the IPS Beacon. Next remove the PUM and the spacer between it and the IPS Beacon.

When disconnected from the IPS Beacon, the unit remains off and does not take any sensor readings.

To power up the IPS Beacon unit attach the PUM to the DB9 port on the end of the IPS Beacon and insert the screw into the PUM (tighten screw to 0.7 Nm (6 in.•lb) keep PUM tightly fastened to IPS Beacon). Verify the green LED on the IPS Beacon flashes 3 times in quick succession to signify the unit is turned on.

## 7.2 Take away memory module (TAM)

The optional take-away memory module (TAM) powers-up the IPS Beacon unit and downloads data from the unit. When connected to the IPS Beacon unit the TAM will log the sensor data as it is recorded on every interval.

To attach the TAM, simply remove the power-up module (PUM) from the IPS Beacon (if attached) and plug in the TAM to the DB9 port on the IPS Beacon. Once attached, wait for 4 LED light flashes from the IPS Beacon (the first 3 flashes will be single flashes while the last 3 will be double-flashes) which signals that the TAM has downloaded the current sensor data and last alarm values from the IPS Beacon. The TAM can now be disconnected from the IPS Beacon, or left attached to continuously log each set of sensor data readings.

The TAM module has enough built-in memory to capture approximately 28 000 sensor data readings. Depending on how often the IPS Beacon unit is set to log data, the amount of time varies for which the TAM can capture sensor readings. See section 5, *Custom configuration programming*, to adjust the data logging interval for the IPS Beacon.

## 8 PARTS LIST AND DRAWINGS



Figure 6: IPS Beacon LED lights

Table 7: IPS Beacon parts and accessories list

Model	Description
VB-105	IPS Beacon
VB-105 TAM	Take away memory module to log sensor data on IPS Beacon unit
VB-105 mounting kit	Mounting pad and bolt to attach IPS Beacon to a threaded tap
VB-105 screw	Cap screw to attach PUM or TAM to IPS Beacon
VB-101 Dock	Programming dock to connect IPS Beacon to PC and change configuration settings
DockTalk	Configuration software utility

## 9 CERTIFICATION

The following certifications are applicable to the IPS Beacon:

### Model: VB-105

CE <sub>0518</sub>	Ex II 1 GD	SP <sup>US</sup> Ex ia CSA 2012 2554102
IECEx SIR.12.0074		CI I, Division 1, Grps A, B, C, D; T4
Sira 12ATEX2188 Ex ia IIC T4 Ga Ex ia IIIC T135°C DA -40°C ≤ Ta ≤ +85°C		CI I, Zone 0, Ex ia IIC T4 CI I, Zone 0, AEx ia IIC T4 Tem. Code T4 -40°C ≤ Ta ≤ +85°C

## 10 TROUBLE-SHOOTING GUIDE

In the event you encounter trouble with your unit:

### 10.1 No flashing LEDs

There may be no flashing LEDs on the IPS Beacon unit for several reasons:

- Unit not powered up
- Unit not configured correctly

See solutions below to each of the possible causes.

#### Unit not powered up

1. Verify the power-up module (PUM) is fully engaged in the DB9 port (and screw tightened to the proper torque) of the IPS Beacon unit. (See section 4, *Maintenance*, on how to turn on the unit).

#### Note:

If the problem is not solved and the optional IPS Dock and DockTalk software has been purchased, go to Step 2.

2. Take the IPS Beacon unit to a safe area and connect to the IPS Dock and use the DockTalk software utility as described in section 5.2. If you cannot connect to the IPS Beacon unit, contact Flowserve factory for additional support. (See section 10.2.)
3. Refer to Dock IOM (PCN 26999975) for instructions on how to read the battery level. If it is above 2.8 V skip to *Unit not configured correctly* section below. If the level is below 2.8 V, the IPS Beacon unit will need to be replaced.

*Unit not configured correctly*

1. Refer to Dock IOM (PCN 26999975) for instructions on how to reload factory settings into the IPS Beacon.

## **10.2 Inaccurate or missing data**

For users that have the IPS Dock and the data being read from the IPS Beacon unit is either inaccurate or missing, this could be due to an incorrect configuration of the unit or improper installation (looseness).

*Unit configuration incorrect*

If the inaccurate/missing data problem is across all sensor data parameters, reload the original configuration for the IPS Beacon unit. (See section 5, *Custom configuration programming*.)

*Improper installation*

Confirm IPS Beacon is securely attached to equipment being monitored.

If none of the above solutions are successful, contact local sales personnel or the factory for additional support.

***Unit manufactured by:***

Flowserve Corporation  
10920 W. Sam Houston Parkway N., Suite 950  
Houston, TX 77064, USA  
Phone: +1-832-375-0807

## **11 DECLARATION OF CONFORMITY**

Note: The following is a "typical" IPS Beacon Declaration of Conformance.



### **Declaration of Conformity**

We,

Flowserve Corporation  
10920 West Sam Houston Parkway North  
Suite 950  
Houston, Texas 77064, USA

Declare in sole responsibility that the equipment:

**VB-105 Beacon  
VB-105 TAM**

Including all options and versions of the base model numbers to which this Declaration refers are in compliance with the Directives and Norms specified herein.

**ATEX Directive** 94/9/EC + all amendments

Basis for compliance:

The equipment has been assessed using the following standards and is supported by the following technical documents:

EN 60079-0	2012	Explosive atmospheres- Part 0: Equipment- General Requirements
EN 60079-11	2012	Explosive Atmospheres-Part 11: Equipment Protection by intrinsic safety "i"
EN 60079-26	2006	Explosive atmospheres-Part 26: Equipment with equipment protection level (EPL) Ga

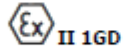
Certificate Number: Sira ATEX2188  
Notified Body: Sira Certification Services, 0518  
Report Number: R26909A/00

Markings:

**Flowserve**

Houston, TX 77064 USA

Model: VB-105 Beacon



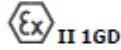
IECEX SIR 12.0074  
Sira 12ATEX2188  
Ex ia IIC T4 Ga  
Ex ia IIIC T135°C Da  
-40°C ≤ Ta ≤ +85°C

CSA 2012 2554102  
Cl I, Division 1, Grps A, B, C, D; T4  
Cl I, Zone 0, Ex ia IIC T4  
Cl I, Zone 0, AEx ia IIC T4  
Tem. Code T4  
-40°C ≤ Ta ≤ +85°C

**Flowserve**

Houston, TX 77064 USA

Model: VB-105 TAM



Part of:  
IECEX SIR 12.0074  
Sira 12ATEX2188

The technical documentation required to demonstrate that the product meets the requirements of the Directives has been compiled by the signatory below and is available for inspection by the relevant enforcement authorities.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Authorized Person, Rick Lawson  
General Manager



**Notes:**

**Your Flowserve factory contacts:**

Flowserve Corporation  
10920 W Sam Houston Parkway N, Suite 950  
Houston, TX 77064 USA  
Phone: +1 832 375 0807

**Your Flowserve sales contact:**

Go to: [www.flowserve.com](http://www.flowserve.com)  
Equipment Monitoring and Control Products

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