

# SPES PROJECT

## **IRCON Pyrometer Modline 5 Installation and Configuration Procedure on Fedora Core 8 Linux**

Document Number ISP-CS-2008-?

Revision 1

02-08-2008

Distribution:

- Project Only
  - All
  - Project Director
  - Technical Director
  - Technical Integration Manager

Availability:

- Public (No restriction)
- Confidential/ Commercial

<b>Spes Project</b>	Title Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date 09-08-08
	Document No ISP-CS-2008-?	Revision 1

### Revision History

Revision	Date	Prepared by	Description
0	02 August 2008	Mauro Giacchini	Original Issue
1	16 August 2008	Ralph Lange	Review

REVIEWED:

....  
Lead Controls Engineer

APPROVED:

.....  
Technical Integration Manager

<b>Spes Project</b>	Title Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date 09-08-08
	Document No ISP-CS-2008-?	Revision 1

## Table of Contents

<b>Table of Contents.....</b>	<b>3</b>
<b>Table of Contents.....</b>	<b>3</b>
<b>Table of Contents.....</b>	<b>3</b>
<b>Table of Contents.....</b>	<b>3</b>
<b>Table of Contents.....</b>	<b>3</b>
<b>1. Introduction.....</b>	<b>4</b>
1.1 Identification.....	4
1.2 Purpose.....	4
1.3 Document Overview.....	4
1.4 Abbreviations.....	4
1.5 Definitions.....	4
<b>2. Referenced Documents.....</b>	<b>6</b>
2.1 External Documents.....	6
2.2 Web-Site References .....	6
<b>3. Prerequisites .....</b>	<b>7</b>
3.1 Hardware Prerequisites.....	7
3.2 Software Prerequisites .....	7
Linux and EPICS.....	7
Installation tar-ball.....	7
<b>4. Installation .....</b>	<b>7</b>
4.1 Pre-Installation Steps.....	7
4.2 IRCON device support module Installation.....	8
4.3 Post-Installation Steps .....	8
4.4 Using IRCON Pyrometer.....	9

<b>Spes Project</b>	Title Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date 09-08-08
	Document No ISP-CS-2008-?	Revision 1

## **1. Introduction**

### **1.1 Identification**

This document is the installation procedure for the EPICS Ircon Pyrometer Modline 5 device support module on Fedora Core 8 Linux. The Mod5 device support module implements an interface to EPICS.

This document describes the installation of the Mod5 device support module under EPICS R3.14.9, running on Fedora Core 8 2.6.23.1-42.

### **1.2 Purpose**

The purpose of this document is to define a set of prerequisites and reproducible steps that must be carried out in order to install the Mod5 device support module with EPICS R3.14.9 on a Fedora Core 8 2.6.23.1-42 platform.

### **1.3 Document Overview**

Section 2 lists the names and locations of referenced documents.

Section 3 lists the hardware and software prerequisites which must be in place prior to carrying out the installation.

Section 4 defines the steps which must be carried out in order to install the software.

### **1.4 Abbreviations**

EPICS	Experimental Physics and Industrial Control System
RTS	The DeviceMaster RTS family of device server enables browser-based remote port/device monitoring and configuration and provides an application software platform for local processing. The DeviceMaster RTS product is a network-attached solid-state embedded device server that delivers exceptional price, performance and reliability. RS-232/422/485 serial devices can be network-enabled with the DeviceMaster RTS device serve

### **1.5 Definitions**

None

<b>Spes Project</b>	Title Ircan Pyrometer Modline 5 Installation Procedure on FC8	Date 09-08-08
	Document No ISP-CS-2008-?	Revision 1

<b>Italian Spes Project</b>	Title Ircan Pyrometer Modline 5 Installation Procedure on FC8	Date 02-08-08
	Document No ISP-CS-2008-?	Revision 1

## 2. Referenced Documents

### 2.1 External Documents

EPICS: Input/Output Controller Application  
Developer's Guide, Release 3.14.9

EPICS Record Reference Manual, EPICS Release 3.14

Control RTS User's Guide

Ircan Modline 5 User's Guide

### 2.2 Web-Site References

EPICS web site:

<http://www.aps.anl.gov/epics/>

EPICS web site at LNL:

<http://www.lnl.infn.it/~epics/>

Control web site:

<http://www.control.com/products/family/dmrts>

IRCON web site:

<http://ircon.com/>

<b>Italian Spes Project</b>	Title Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date 02-08-08
	Document No ISP-CS-2008-?	Revision 1

### 3. Prerequisites

#### 3.1 Hardware Prerequisites

There must be a minimum of one Modline 5 pyrometer connected to the computer system through the Control RTS. The Modline 5 has an RS485 address, the factory default is zero.

#### 3.2 Software Prerequisites

##### 3.2.1 Linux and EPICS

The Fedora Core 8 Linux operating system must have been previously installed. Note: the software should work on any Linux distro, we only run in on Fedora.

The NSLINK software by Control has to be installed and setup. EPICS 3.14.9 must have been installed. Also, the Stream v.2.3 and Asyn v.4.9 modules driver must be installed. MEDM and VDCT may help to test the installation.

##### 3.2.2 Installation tar-ball

An installation tar-ball must be available in the Spes File Server Repository, containing the following files:

- *IRCON\_dd\_mm\_yy.tar.gz*

### 4. Installation

#### 4.1 Pre-Installation Steps

Ensure that you have installed EPICS 3.14.9.

Using the installed NSLINK software select the RS485 port using:

nslinktool-> Config Driver->Edit and tick on the selected port. Restart the driver and verify the new port configuration.

1. Ensure that you have the appropriate EPICS environment variables setup, and a modified /etc/profile as follows:

```
export EPICS_HOST_ARCH=linux-x86
```

2. Make immediately available the new set-up:

```
$ source /etc/profile
```

<b>Italian Spes Project</b>	Title Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date 02-08-08
	Document No ISP-CS-2008-?	Revision 1

## 4.2 IRCON device support module Installation

The IRCON device software is built by carrying out the following steps:

1. Obtain the *IRCON\_dd\_mm\_yy.tar.gz*. From ther Spes File Server.
2. Untar the ball
3. Change to the directory which contains the driver:

```
$ cd IRCON
```

4. Adjust the configuration files to pint out the right installation places:.

```
$ cd configure
$ vi RELEASE
....
EPICS_BASE=/opt/epics/base-3.14.9
ASYN=/opt/epics/modules/asyn-4.9
STREAM=/opt/epics/modules/StreamDevice
```

5. Save the modified RELEASE file.
6. Going up to re-build

```
$ cd ../
$ make clean all
```

7. Check the output from the “make” command for errors. In particular, check for error messages that might indicate unsupported device types or record types.
8. The default configurations about the port used and the RS485 address have to be adjusted modifying the st.cmd.

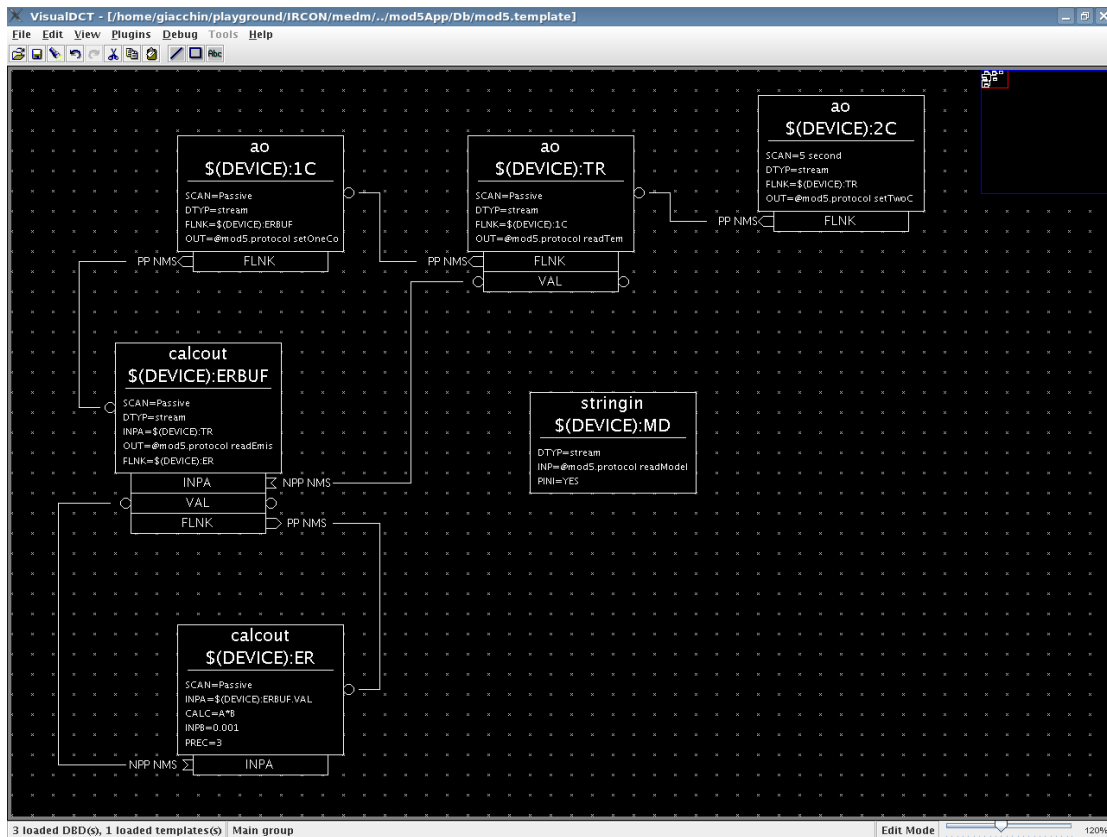
```
$ cd configure
$ vi ./iocBoot/iocmod5/st.cmd
....
## Load record instances and pass the RS485 address
dbLoadRecords("db/mod5.template", "DEVICE=IR1, PORT=L1, RS485ADD=2")

## Pass the RS232 port address to Asyn module
drvAsynSerialPortConfigure("L1", "/dev/ttySI15", 0, 0, 0)
```

## 4.3 Post-Installation Steps

There are no post-installation steps required for the IRCON driver itself. However, you may have a look to the database using VDCT: that's look like:

<b>Italian Spes Project</b>	Title	Ircon Pyrometer Modline 5 Installation Procedure on FC8	Date	02-08-08
	Document No	ISP-CS-2008-?	Revision	1



If the MEDM display manager is not yet installed, it is suggested that this be installed to facilitate testing of EPICS running with the IRCON driver.

#### 4.4 Using IRCON Pyrometer

Start-up the IOC:

```
$ cd IRCON/iocBoot/iocmod5
$ ./st.cmd
```

(Check for error messages after starting the IOC with the “./st.cmd” command.)

Start-up the MEDM panel by a script:

```
$ cd IRCON/medm
$ ./medm_to_mod5
```

the follow MEDM panel appear:

<b>Italian Spes Project</b>	Title Iacon Pyrometer Modline 5 Installation Procedure on FC8	Date 02-08-08
	Document No ISP-CS-2008-?	Revision 1



The IOC should now be installed and running. Entering “exit” will terminate the ioc.