REGULATEURS EUROPA
Member of the
Heinzmann Group

Instruction Manual

ICENI/PS-01

Main Power Supply Module
(10 to 35Vdc)

Pub_3640 - Issue 2

INDEX

1 FOREWORD

These instructions have been compiled to assist personnel responsible for the operation and maintenance of equipment manufactured by Regulateurs Europa Ltd.

Care has been taken to ensure that the equipment has been accurately represented, but it should be appreciated that, with the continued progress of design and the diversity of application, certain items may differ in detail.

It should be noted that these instructions are issued for general information and do not constitute a specification of the equipment.

Whilst reserving the right to make any alteration in design which they may consider advisable the manufacturers absolve themselves from making any such alteration retrospective.

In addition to the information given herein, practical advice and assistance is always available from the Customer Support Department at Regulateurs Europa Ltd.

2 GENERAL USE

Before carrying out any repairs, adjustments or maintenance to any equipment supplied by Regulateurs Europa Ltd, it is essential the following safety precautions be observed.

2.1 General

The operator should take care to make themselves thoroughly familiar with the operating principles, methods of adjustment and the dismantling and assembly procedures (where applicable) concerning the equipment in use.

2.2 Product Condition

Before power-up ensure that the product is in a good condition and not damaged, paying particular attention to the ICENIbus connectors on each side of the module and the field wiring connectors at the top of the module. Ensure that any wires are fitted securely into terminals.

2.3 Signal Connection

If the module requires configuration then ensure that any critical signals are disconnected from the module until configuration of the module has been performed. This will prevent unwanted or unexpected changes in signal polarity from affecting other circuitry.

2.4 Module Damage / Repair

The Iceni modules are not repairable. Where damage is found that could compromise the operation of the module, a replacement part should be sourced from Regulateurs Europa Ltd.

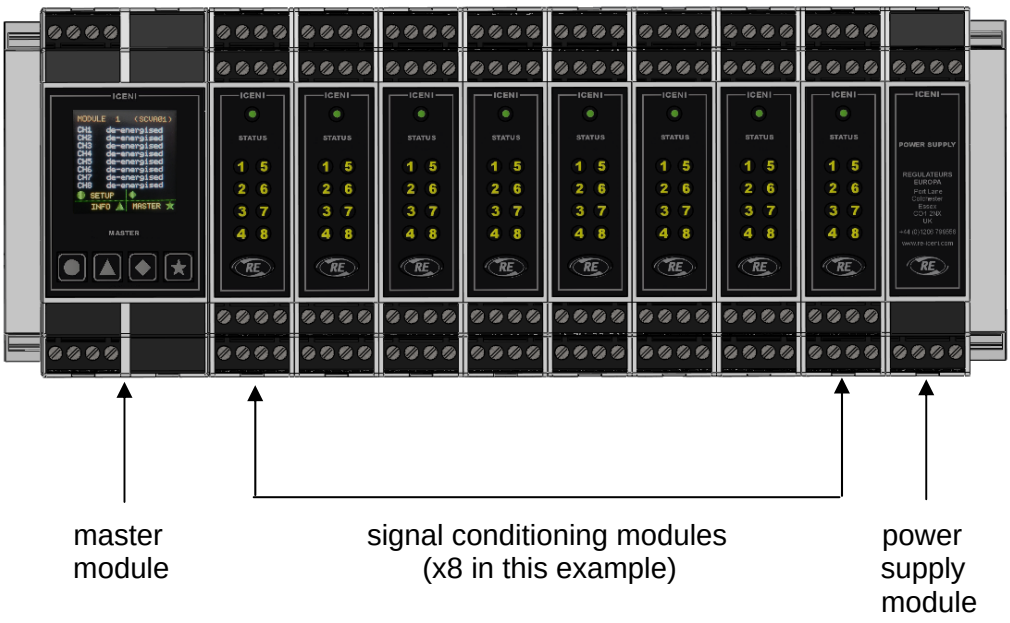
Iceni module should be disposed via an approved disposal scheme suited to electronic products and in accordance with local legislation.

3 PRODUCT OVERVIEW

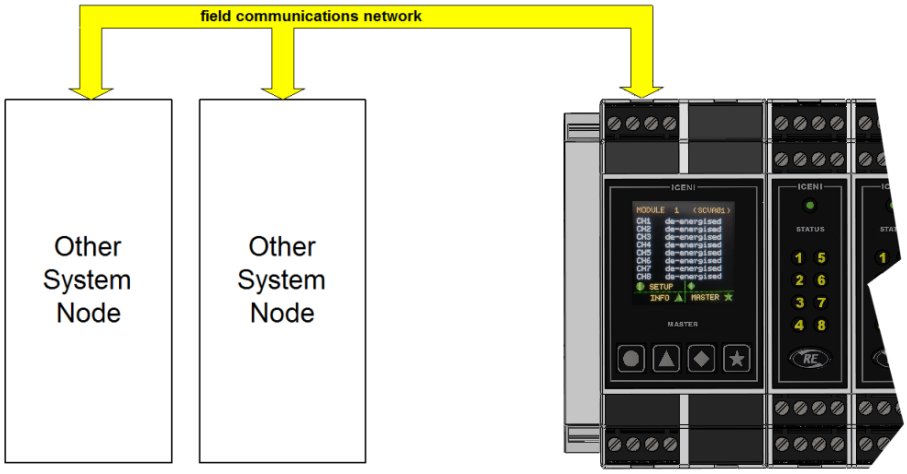
3.1 Iceni Node

An Iceni node comprises of a master module, between one and sixteen signal conditioning modules and at least one power supply module.

A typical Iceni node:

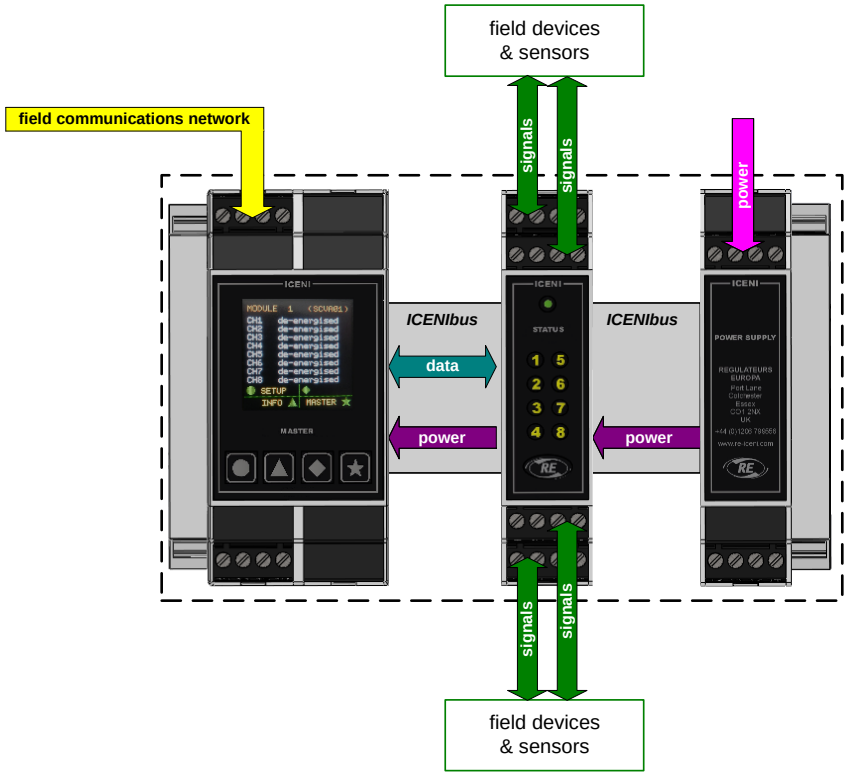


According to the mix of signal conditioning modules, the Iceni node manages the measurement and generation of electrical signals to/from sensors and field devices. Information is exchanged with other nodes in a system via a field communications network connected to the Iceni master module.

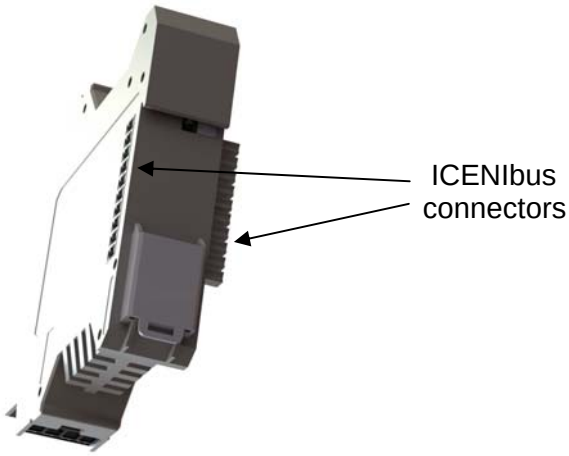


3.2 ICENIbus Interface

Iceni modules are designed to plug together to form a node. The connection system used to join one module to another is called ICENIbus and is used to transfer both data and power supply between modules.



All modules have a 10-way ICENIbus connector on both sides of the lower housing, although for end modules (master and main power supply) one side connector will be supplied fitted with a protective cover.



3.3 Field Wiring Interface

As standard, Iceni modules are supplied with screw-clamp field wiring connectors, although cage-clamp variants are available as an option.

For ICENI/PS-01 there are two connectors marked 5-8 and 13-16 to match the numbers marked on the Iceni housing. This arrangement identifies the connector to its location on the module.

When fitted properly, the field wiring connectors are held securely in the module housing. In order to remove a terminal, a small flat bladed screwdriver should be inserted between the top of the connector and the module housing to enable the connector to be carefully levered free. This will release the connector without damage.

4 ICENI/PS-01 KEY FEATURES

The ICENI/PS-01 module is a component of an Iceni node and provides a regulated and filtered power supply (via ICENIbus) to all other modules

The ICENI/PS-01 module provides the following key features:

- Generation of a stabilised power supply to power other Iceni modules.
- Operation from external 24Vdc (nominal) power supply.
- Input supply monitoring and fault status indication via a changeover relay clean contact output.
- Internal supply current limitation to protect against overload if Iceni master or signal conditioning module failure occurs.
- Power loadsharing with an Iceni redundant power supply module (where fitted).
- Typically supports enough power to allow an Iceni master module plus up to sixteen Iceni signal conditioning modules to function together as a node.
- Termination of ICENIbus.

5 PRODUCT SPECIFICATION

5.1 Electrical Properties

5.1.1 Power Supply Input

External supply input:

o Nominal:	24Vdc
o Minimum:	10Vdc
o Maximum:	35Vdc (damage could occur if > 40Vdc)
Protection:	reverse polarity to -35Vdc

5.1.2 Power Supply Output (ICENIbus)

Maximum total supply available:	3500mA
Supply output protection:	short circuit

Loadsharing capability
(when used with one or more redundant power supply modules)

5.1.3 Fault Status Indication

Output type:	relay clean contact (changeover)
Fault sensing:	external supply input < 10Vdc external supply input > 35Vdc
Series resistance (on):	< 50mOhm
Switching current (maximum):	1A @ 24Vdc
Switching voltage (maximum):	125Vdc / 150Vac
Switching capacity (maximum):	30W / 60VA

5.1.4 Signal Isolation

External power supply to ICENIbus:	1KV
External power supply to fault status output:	1KV
Fault status output to ICENIbus:	1KV

5.1.5 Field Wiring Termination

2 x 4-way free part sockets with screw terminals. (Cage-clamp option available)

Wiring cross section / strip length 0.14 to 0.5mm^2 / 7mm

5.2 Mechanical Properties

5.2.1 Temperature Range

Operating:	-20°C to +70°C (-4°F to +158°F)
Storage:	-40°C to +85°C (-40°F to +185°F)

5.2.2 Material

Enclosure:	Polyamide
Labels:	Polyester
Membrane overlay:	Polyester

5.2.3 Weight

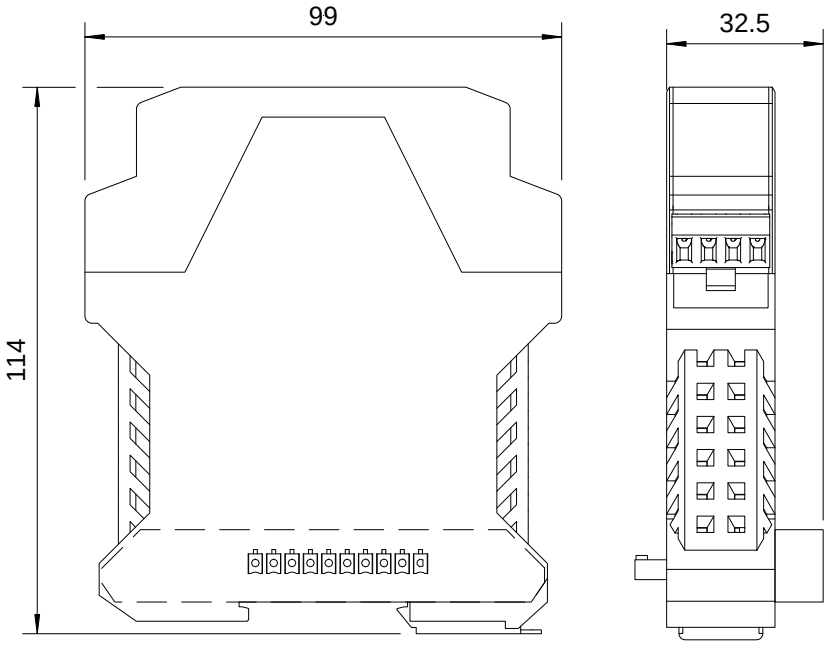
Module weight (including free part screw terminals):	150g (approx.)

5.2.4 Ingress Protection

Assembled node:	IP20

5.2.5 Dimensions

(Dimensions shown in mm)



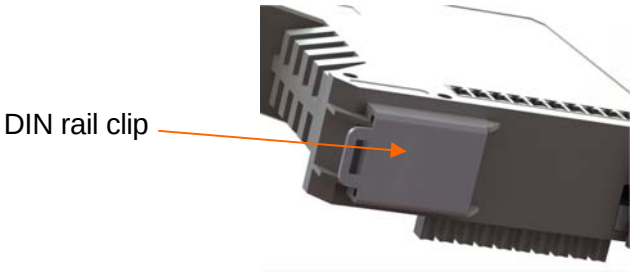
6 UNPACKING & INITIAL PREPARATION FOR USE

6.1 Unpacking

The module should be removed from the sealed bag inside the protective cardboard carton. All packaging should be disposed of in an appropriate way.

6.2 Node Assembly

The module is designed to clip and fit onto TS 35 DIN terminal rail (both standard and deep types) with other Iceni modules to form a node. A metal clip is provided on the base of each module for this purpose.



An Iceni node can be mounted in both vertical and horizontal orientations according to terminal rail layout. Assembly of the Iceni node can be achieved in one of two ways:

- The Iceni node (including the ICENI/PS-01 module) can be assembled on a bench and then fitted into place on the DIN rail with a slight tilting action. It is important that the metal DIN rail latch on the underside of each module engages properly with the rail to retain the modules in place.

- The ICENI/PS-01 module can be fitted with other modules one at a time on the DIN rail with a slight tilting action. It is important that the metal DIN rail latch on the underside of each module engages properly with the rail to retain the module in place. The modules can then be pressed together tightly to ensure that each module plugs into its neighbour to form the node.

6.3 Node Disassembly

Disassembly of the Iceni node is essentially the reverse of the procedure above and can be achieved in one of two ways:

- Each module can be separated from the next on the rail. The metal DIN rail latch can then be operated with a small screwdriver and the modules removed with a tilting action, one by one.

- The metal DIN rail latches for all modules can be released in turn with a small screwdriver until the Iceni node is free to be removed with a tilting action. The modules can then be separated from each other.

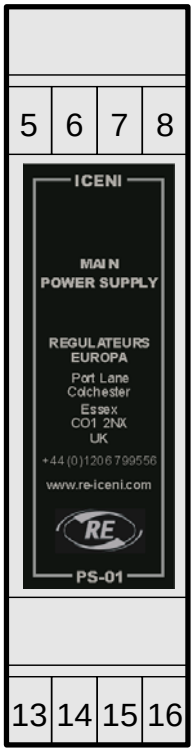
6.4 Module Positioning Within a Node

The ICENI/PS-01 module should be fitted in the yellow location shown in the diagram below.

It is essential that the ICENI/PS-01 module is positioned to be the last module in the node.

7 FIELD WIRING TERMINATION

7.1 Terminal & Connector Layout

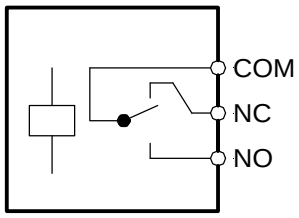


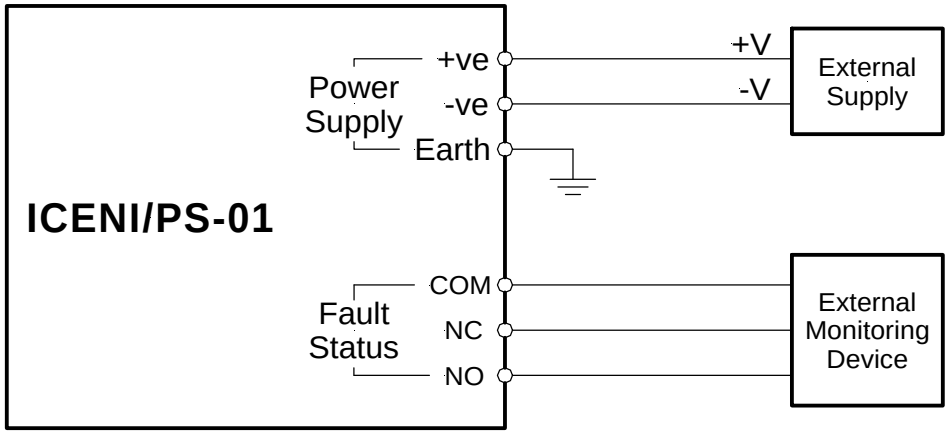
NAME	TERMINAL	DESCRIPTION
Power Supply	5	Supply +ve
	6	-
	7	Supply -ve
	8	Earth

NAME	TERMINAL	DESCRIPTION
Fault Status	13	common
	14	normally closed contact
	15	normally open contact
	16	-

(- : not connected)

7.2 Wiring Schematic





7.3 Earthing / Grounding

The metal terminal rail to which the Iceni node is attached and the ‘Earth’ terminal should be connected to a ‘clean’ earth / ground point. In many applications this would be the chassis of the product.

8 MODULE OPERATION

8.1 General

When a healthy incoming power supply is connected to the Power Supply input terminals, the ICENI/PS-01 module automatically provides a regulated, filtered and isolated power supply feed to other Iceni modules via the ICENIbus connector.

Although the ICENI/PS-01 module will provide power to the other Iceni modules, correct termination of the ICENIbus is reliant on the inclusion of an Iceni main power supply in the node. Therefore every node must contain an Iceni main power supply module.

More than one ICENI/PS-01 module can be fitted in the same node if multiple power supply redundancy is required.

8.2 Healthy Operation

When the incoming supply is within the acceptable operating voltage range, the alarm output will energise to indicate a healthy condition.

8.3 Fault Condition

The alarm output will de-energise to indicate a fault condition, and the supply feed via ICENIbus to the other modules will be disabled under the following conditions:

- The incoming power supply falls outside of the acceptable operating voltage range
- An overload situation has been recognised on the ICENIbus (i.e. excessive current is being drawn form the ICENI/PS-01 module)

When a failure condition has been sensed and indicated by the ICENI/PS-01 module, removal of the cause of fault followed by a power cycle is required to restore normal operation.

9 CONTACT

For sales or support enquiries, the following contact details should be used. The product part number and serial number (where available) should be referenced.

Regulateurs Europa Ltd
Port Lane
Colchester
Essex
C01 2NX
United Kingdom

Tel: +44 (0)1206 799556
Fax: +44 (0)1206 792685

Email: support@regulateurseuropa.com

Website: www.re-iceni.com

10 REVISION HISTORY

REVISION	DATE	AUTHOR	CHANGES
1	04.04.11	MMB	Original
2	22.04.14	MMB	Major update of format and content

Regulateurs Europa Ltd
Port Lane
Colchester
Essex
United Kingdom
CO1 2NX