



# POWER SUPPLY REGISTRATION PROCESS



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Table of Contents

**1 Purpose.....1**

**2 Acronyms.....1**

**3 Definitions.....1**

**4 Fieldbus Power Supply Profiles.....1**

**5 Power Supply Registration Procedure.....2**

**6 Power Supply Compliance Form .....2**

**7 Modifications to Registered Power Supply .....2**

**8 Revisions to the Power Supply Test Specification .....3**

**9 Complex Implementations .....3**

**10 Fieldbus Power Supply/Conditioner Family .....4**

**11 Power Supply Registration Certificate.....4**

**12 Registration Mark.....4**

**13 Fees.....5**

    13.1 Audit Fee .....5

    13.2 Certificate Fee .....5

        13.2.1 Registration Certificate Fee.....5

        13.2.2 Re-Registration Certificate Fee.....5

        13.2.3 Family Conversion Fee .....5

**14 Referenced Document.....5**

**15 Document History .....6**

## 1 Purpose

The purpose of this plan is to document the process and procedures a power supply manufacturer must complete to advertise their device as FOUNDATION<sup>TM</sup>-registered.

## 2 Acronyms

The following acronyms are used throughout this process description:

Acronym	Meaning
FCG	FieldComm Group

## 3 Definitions

Fieldbus Power Supply	A galvanic isolated power source followed by a power conditioner necessary to power a fieldbus segment.
Fieldbus Power Conditioner (Type 1)	Circuit to power a fieldbus segment from a galvanic isolated constant voltage power supply intended for use with non-specific general purpose power supplies.
Fieldbus Power Conditioner (Type 2)	Circuit to power a fieldbus segment from a galvanic isolated constant voltage power supply intended for use only with specific general purpose power supplies.
Galvanic Isolation	A characteristic of a means of providing electrical energy that is not referenced to another electrical potential.

## 4 Fieldbus Power Supply Profiles

The following profiles are eligible for the power supply registration process.

Type	Description
131	Non-I.S. power supply intended for feeding an entity-model I.S. barrier
132	Non-I.S. power supply <u>not</u> intended for feeding an I.S. barrier
133	Entity-model I.S. power supply
551	FISCO Power Supply for Group IIC Gas applications
552	FISCO Power Supply for Group IIB Gas applications

**NOTE:** The Physical Layer Test Specification tests beyond requirements of the specification. Some implementations that conform to the standard may not meet the requirements of this test specification.

The power supply test specification and power supply registration supports the following profile implementations.

- Fieldbus Power Supply

- Fieldbus Power Conditioner for use with a specific bulk power supply
- Fieldbus Power Conditioner for use with a general purpose bulk power supply

## 5 Power Supply Registration Procedure

To complete the power supply registration, the following steps must be completed.

Step #	Step Description	Doc #	Notes
1	The manufacturer must be licensed to utilize the necessary intellectual property of FieldComm Group.		
2	The manufacturer must contact FieldComm Group to obtain the Power Supply Registration Kit. The Power Supply Registration kit will contain the current versions of the documents approved for registration.		
3	The manufacturer completes the Power Supply Test Specification against the implementation.	FF-831	
4	The manufacturer completes a test report based on the Power Supply Test Specification Compliance Form and submits to FieldComm Group for review.	FF-832	
5	The device supplier pays the registration fee.		
6	FieldComm Group reviews the results submitted by manufacturer and grants device registration certificate if all requirements are met.		

## 6 Power Supply Compliance Form

The manufacturer executes the test cases defined in the Power Supply Test Specification. The manufacturer must create a test report of the test results using the Power Supply Compliance Form. A power supply must pass all applicable test cases to be eligible for registration.

## 7 Modifications to Registered Power Supply

Only power supplies that complete the power supply registration process may claim they are FOUNDATION<sup>TM</sup>-registered and use the registration mark. Any changes to the electrical implementation that affects the performance of the power supply shall require the manufacturer to complete the power supply registration procedure described in section 5 on the modified implementation. Non-electrical modifications, such as housing or color, do not require the modified power supply to complete the registration procedure.

## 8 Revisions to the Power Supply Test Specification

All changes to the Power Supply Test Specification must be approved by the Technical Steering Committee. All changes shall use the Action Request Resolution Process. Change requests can be made at the following URL: <http://www.fieldbus.org/ar>

Before a power supply can be considered registered, two implementations from non-related manufacturers must complete a successful test report using the Power Supply Test Specification. The FCG Technical Steering Committee must formally approve all versions of the Power Supply Test Procedures used for registration.

## 9 Complex Implementations

A power supply implementation may be comprised of one or more backplanes (b) with individual modules (m). In this case, there are (b x m) possible combinations. Performing test reports for all possible combinations is not practical. It is not required to complete the test procedure for all possible (b x m) combination

In order to meet the registration requirements, the power supply manufacturer shall identify the combinations that are electrically different and apply the test procedures for each of those implementations. The manufacturer shall identify the combinations. The following conditions represent a minimum variation that must be explicitly tested.

- Profile Class
- Rated Current
- Redundant configurations
- Passive and Active implementations
- Isolation

The manufacturer must include a signed letter by a responsible officer of the company stating that the untested combinations are electrically identical to those that were tested. All possible combinations shall be considered FOUNDATION<sup>TM</sup>-registered. Registration fees are applicable for each module.

For example, a manufacturer supplies backplane b1 that supports 4 modules and a backplane b2 that support 8 modules. These two backplanes are electrically equivalent except for the number of available modules. If a module m1 supports Class 131 profile and module m2 support Class 552 profile, manufacturer shall submit a test report for the combination (b1, m1) and (b1, m2). The manufacturer shall include a letter, signed by a responsible officer of the company, indicating that the backplane b1 and b2 are electrically equivalent. The manufacturer will be responsible for two registration fees for module m1 and m2.

Manufacturers should contact to FieldComm Group prior to completing the tests to verify test strategy.

## 10 Fieldbus Power Supply/Conditioner Family

A manufacturer may choose to group multiple Fieldbus Power Supply (or Conditioner) products into a product family. All family members must comply with the procedures specified in section 5.

To qualify as a family, all family members must have the same characteristics:

- Profile Type
- Power Conditioning Design (passive, active, etc.)
- Isolation Design (if applicable)
- Short Circuit Protection Design

The following variations are permitted within a family:

- Product enclosure variations (physical package, color, etc.)
- Connector variations
- Voltage and Current variations
- Terminator variations (with, without, switchable, etc.)
- Simplex and Redundant versions (of the same design)

## 11 Power Supply Registration Certificate

FieldComm Group will issue the registration certificate after the product meets all requirements of the power supply registration process.

## 12 Registration Mark

The power supply manufacturer may display the FF registration mark on their product after the product has passed the FF power supply registration test and has been issued the power supply registration certificate.

A manufacturer may only display the registration mark on the version of the power supply that was tested. If the power supply is modified (see section 7), then the manufacturer must complete the power supply registration on the modified implementation to continue to use the registration mark.

Appropriate use of the Registration Mark is described in MT-045.



## 13 Fees

There are two fees associated with fulfilling the Power Supply Registration Process. The first fee relates to the audit of the test reports and process requirements. The second fee relates to the issuance of a new or updated registration certificate.

New family members added to an existing family registration are only subject to the audit fee.

FieldComm Group publishes all current testing and registration fees on a website at <http://www.fieldbus.org/services>.

### 13.1 Audit Fee

Each product or product family member is subject to an audit fee.

### 13.2 Certificate Fee

The registration certificate fee applies a single product or a product family that successfully completes the registration process.

#### 13.2.1 Registration Certificate Fee

The Registration Certificate fee applies to a new product or product family that successfully completes the registration process.

#### 13.2.2 Re-Registration Certificate Fee

The Re-registration fees will apply to an existing registered product or product family that is modified (section 7) and maintains the same profile.

#### 13.2.3 Family Conversion Fee

The Family Conversion Fee applies to an existing, unmodified registered product that will be converted to a family registration. The conversion fee is waived for all registrations prior to 1 November 2010.

## 14 Referenced Document

ID	Document Title
FF-532	Power Supply Registration Process (this document)
FF-831	Power Supply Test Specification
FF-832	Power Supply Test Specification Compliance Report (Template) Fieldbus Isolated Bulk Power Supply Specification (Template)
FF-548	Action Request Resolution Process
FF-816	31.25 kbit/s Physical Layer Profile
MT-045	Use of the Registration Mark

**15 Document History**

<b>Revision</b>	<b>Notes</b>	<b>Editor</b>
1.0	Initial Release	S. Mitschke
1.1	Pointed user to website for current pricing	J. McEvers
1.2	Updated link to fee schedule on website; added revision history	J. McEvers
1.3	Family registration added	S. Mitschke
1.4	Updated for first release for FieldComm Group; logo and name changes only - no process updates.	J. McEvers