



# H1 CABLE REGISTRATION PROCESS



By: Stephen Mitschke  
Product Manager – Fieldbus Products  
Heather Santos  
Product Support Specialist  
Jay McEvers  
Product Support Specialist

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## Table of Contents

<b>1</b>	<b>Purpose</b>	<b>1</b>
<b>2</b>	<b>Definitions</b>	<b>1</b>
<b>3</b>	<b>Requirements Terminology</b>	<b>1</b>
<b>4</b>	<b>Background</b>	<b>2</b>
<b>5</b>	<b>H1 Cable Registration Policy</b>	<b>2</b>
<b>6</b>	<b>Program Benefits</b>	<b>2</b>
6.1	Product Registration Symbol	2
6.2	Registration Certificate	2
6.3	Web Catalog Registry	3
<b>7</b>	<b>H1 Cable Registration Requirements</b>	<b>3</b>
7.1	Specification License	3
7.2	Self Test Requirements	3
<b>8</b>	<b>H1 Cable Registration Procedure</b>	<b>3</b>
8.1	Payment	3
8.2	Registration Kit	3
8.3	Self Test Documentation	3
8.4	Test Report Audit	4
<b>9</b>	<b>Certificate Compliance</b>	<b>4</b>
<b>10</b>	<b>Modifications to Registered H1 Cable</b>	<b>4</b>
<b>11</b>	<b>Revisions to the H1 Cable Test Specification</b>	<b>4</b>
<b>12</b>	<b>Registration Certificate Fees</b>	<b>4</b>
<b>13</b>	<b>Marketing Standards</b>	<b>5</b>
<b>14</b>	<b>Registration Audits</b>	<b>5</b>
14.1	Registration Audit Fee	5
14.2	Registration Audit Notice	5
<b>15</b>	<b>Referenced Documents</b>	<b>5</b>
<b>16</b>	<b>Document History</b>	<b>6</b>

## 1 Purpose

The purpose of this plan is to document the process and procedures an H1 cable manufacturer shall complete to advertise their product as FOUNDATION™-registered.

## 2 Definitions

H1 Cable	Shielded twisted pair cable for H1 installations.  Cables of different sizes (AWG or mm <sup>2</sup> ) are not defined as a cable family, they are not electrically equivalent, and therefore they are unique H1 Cable implementations for the purposes of documentation in a test report.
H1 Cable Product Family	A product family is identified as multiple H1 Cables of a single cable application type constructed with the same wire gauge and carrying the same optional characteristics.  Each member of the H1 Cable product family may have a different number of pairs. For example, one, two, and eight paired trunk cables could be considered a product family.

## 3 Requirements Terminology

The following keywords define requirements levels as defined in RFC 2119.

<b>MUST</b>	This word, or the terms "REQUIRED" or "SHALL", means that the definition is an absolute requirement of the specification.
<b>MUST NOT</b>	This phrase, or the phrase "SHALL NOT", means that the definition is an absolute prohibition of the specification.
<b>SHOULD</b>	This word, or the adjective "RECOMMENDED", means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
<b>SHOULD NOT</b>	This phrase, or the phrase "NOT RECOMMENDED" means that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
<b>MAY</b>	This word, or the adjective "OPTIONAL", means that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation that does not include a particular option <b>MUST</b> be prepared to interoperate with another implementation that does include the option, though perhaps with reduced functionality. In the same vein an implementation that does include a particular option <b>MUST</b> be prepared to interoperate with another implementation that does not include the option (except, of course, for the feature the option provides.)

## 4 Background

The H1 Cable Registration Process is a new program designed to increase the physical interoperability of FOUNDATION cable infrastructure.

H1 Cable manufacturers follow a standard set of tests detailed in the H1 Cable Test Specification (FF-844). The test results are documented by the manufacturer and submitted to the FieldComm Group. The FieldComm Group facilitated the H1 Cable Test Specification development through a team of volunteers comprised of several member companies who currently offer cable products.

## 5 H1 Cable Registration Policy

The use of the FOUNDATION Product Registration symbol in conjunction with a FOUNDATION-Registered H1 Cable is the manufacturer's representation that a sample of the product has successfully completed all requirements specified in FieldComm Group's H1 Cable Registration Process.

The H1 Cable Registration Process defines a series of test protocols for H1 Cable. Placing the Product Registration Symbol on a cable that has not completed the H1 Cable Profile Registration Process is a trademark violation.

## 6 Program Benefits

The FieldComm Group will grant the following benefits when the cable under test successfully completes the H1 Cable Registration Process.

### 6.1 Product Registration Symbol

The FieldComm Group will grant the cable manufacturer the right to use Product Registration Symbol subject to the marketing standards defined in the Foundation's Graphic Identify Standards Guide.



Figure 1. Product Registration Symbol

### 6.2 Registration Certificate

The FieldComm Group will issue the manufacturer a registration certificate documenting the cable under test. The certificate does not expire.

### **6.3 Web Catalog Registry**

All FOUNDATION-registered H1 cables that meet the current catalog requirements will be listed in an online web catalog at <http://www.fieldbus.org>. The FieldComm Group reserves the rights to change the requirements for listings in the online catalog.

## **7 H1 Cable Registration Requirements**

In order to advertise H1 Cable as FOUNDATION<sup>TM</sup>-registered, the following requirements must be met.

### **7.1 Specification License**

The manufacturer must hold a current license and active maintenance agreement to the FieldComm Group's Technical Specifications (FF-007).

### **7.2 Self Test Requirements**

The H1 cable manufacturer must complete a successful H1 Cable Self Test using the current version of the H1 Cable test specification (FF-844) for each cable to be registered..

The cable supplier must complete a test report based on the H1 Cable Test Specification Compliance Form (FF-845).

## **8 H1 Cable Registration Procedure**

To complete the H1 Cable registration, the following steps must be completed.

### **8.1 Payment**

The manufacturer must secure payment for the registration fees with a credit card or purchase order. See Section 12 for fee information.

### **8.2 Registration Kit**

The manufacturer must contact the FieldComm Group to obtain the H1 Cable Registration Kit. The H1 Cable Registration kit will contain the current versions of the documents approved for registration. The H1 Cable Test Specification (FF-844) is part of the FieldComm Group's Technical Specifications (FF-007)

### **8.3 Self Test Documentation**

The manufacturer must complete a self test using the current version of the H1 Cable Test Specification (FF-844) against a representative sample of H1 Cable. If the manufacturer is submitting a product family, then each member of the product family must be tested. The manufacturer must complete a test report based on the H1 Cable Test Specification Compliance Form (FF-845) and submit to FieldComm Group for review.

## 8.4 Test Report Audit

FieldComm Group will review the submitted documents required for registration. All applicable test cases must be completed successfully and documented in the H1 Cable Test Specification Compliance Form. Applicable test cases are determined by the documented application type.

## 9 Certificate Compliance

The H1 Cable Registration Certificate is valid for the cable identified on the certificate. A cable manufacturer that makes modifications to the cable must perform a new registration to continue to use the Product Registration Symbol and advertise the cable as FOUNDATION-registered.

## 10 Modifications to Registered H1 Cable

Only H1 cables that complete the H1 cable registration process are authorized to claim they are FOUNDATION-registered and use the registration mark. Any changes to the electrical implementation that affects the performance of the H1 cable requires that the manufacturer must complete the H1 cable registration procedure described in Section 8 on the modified implementation. Non-electrical modifications, such as insulation color, do not require the modified H1 cable to complete the registration procedure.

The H1 cable is considered MODIFIED if any of the following are true.

1. An optional characteristic defined in FF-844 section 4.1 is added to the H1 cable.
2. An optional characteristic defined in FF-844 section 4.1 is removed from the H1 cable.

The H1 Cable would not be considered MODIFIED in the following examples.

1. Jacket color changes. Cables within a product family may have unique jacket colors.
2. Wire insulation color changes. Cables within a product family may have unique wire insulation colors.

## 11 Revisions to the H1 Cable Test Specification

All changes to the H1 Cable Test Specification must be approved by the Technical Steering Committee. All changes must use the Action Request Resolution Process (FF-548). Change requests can be made at the following URL: <http://www.fieldbus.org/ar>

Before an H1 Cable can be considered registered, under a newly revised test specification, two implementations from non-related manufacturers must complete a successful test report using the new or revised H1 Cable Test Specification. The Technical Steering Committee must formally approve all versions of the H1 Cable Test Procedures used for registration.

## 12 Registration Certificate Fees

The registration certificate fee applies to each H1 cable implementation submitted in a test report.

The H1 Cable Registration Certificate Fee schedule is available at [www.fieldbus.org/services](http://www.fieldbus.org/services)

## 13 Marketing Standards

The FieldComm Group's Graphic Identity Style Guide (MT-041) specifies all marketing standards including guidance for using the Product Registration Symbol. Contact the FieldComm Group at [member.services@fieldbus.org](mailto:member.services@fieldbus.org) for copies of this guide.

## 14 Registration Audits

FieldComm Group reserves the right to internally audit cable registration requirements.

The administrative audit is a FieldComm Group internal review to verify the H1 cable is in compliance with the program requirements. FieldComm Group may contact the manufacturer via phone or email to verify compliance. FieldComm Group may request a sample to verify compliance with the registration requirements.

### 14.1 Registration Audit Fee

There are no fees associated with an administrative audit.

### 14.2 Registration Audit Notice

An administrative audit may occur without notice. All inquiries sent to the manufacturer must be responded to within ten business days.

## 15 Referenced Documents

ID	Document Title
FF-534	H1 Cable Registration Process (this document)
FF-844	H1 Cable Test Specification
FF-845	H1 Cable Test Specification Compliance Report (Template)
FF-548	Action Request Resolution Process
MT-041	Graphic Identity Standard

**16 Document History**

<b>Revision</b>	<b>Notes</b>	<b>Editor</b>
1.0	- Initial Release of document	S. Mitschke H. Santos
1.1	- Removed version number of FF-844 in doc body. - Updated web link to fees - Updated table in section 15 to appropriate version of FF-844	J. McEvers
1.2	- First official version for FieldComm Group - Removed reference document version numbers – latest always applies - Clarified definition of a cable family vs. cable in table 2	J. McEvers