CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM17US0046X**
3. **Equipment:**
   (Type Reference and Name) **Minifast Network Wiring**
   Eurofast Network Wiring
   Minifast & Eurofast Network Wiring Junction Boxes
4. **Name of Listing Company:** **Turck Inc.**
5. **Address of Listing Company:** **3000 Campus Drive**
   Plymouth, MN 55441
   USA
6. The examination and test results are recorded in confidential report number:

   3010019 dated 25th March 2002

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2018, FM Class 3611:2018, FM Class 3810:2018,
   ANSI/UL 61010-1:2012, ANSI/UL 121201:2017, ANSI/NEMA 250:1991

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. Equipment Ratings:

    Minifast Network Wiring
    Nonincendive for use in Class I, II, Division 2, Groups A, B, C, D, E, F, & G; Class I, Zone 2, Groups IIC; hazardous (classified) locations, Type 4X in accordance with control drawing NI-2.401.

Certificate issued by:

J.E. Marquedant
VP, Manager – Electrical Systems

12 October 2021
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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Eurofast Network Wiring
Nonincendive for use in Class I, Division 2, Groups A, B, C, & D; Class I, Zone 2, Groups IIC; hazardous (classified) locations, Type 4X in accordance with control drawing NI-2.401.

Minifast & Eurofast Network Wiring Junction Boxes
Nonincendive for use in Class I, Division 2, Groups A, B, C, & D; Class I, Zone 2, Groups IIC; hazardous (classified) locations, Type 4X and Nonincendive field wiring with connection to Class I, Division 2, Groups C & D hazardous (classified) locations in accordance with control drawing NI-2.401 or NI-2.410.

11. The marking of the equipment shall include:

Minifast Network Wiring
Class I, II, Division 2, Groups A, B, C, D, E, F, G; T4 Ta = -40°C to +80°C; Type 4X
Class I, Zone 2, Groups IIC

Eurofast Network Wiring
Class I, Division 2, Groups A, B, C, D; T4 Ta = -40°C to 80°C; Type 4X
Class I, Zone 2, Groups IIC

Minifast & Eurofast Network Wiring Junction Boxes
Class I, Division 2, Groups A, B, C, D; with Nonincendive Field Wiring Connections to Class I, Divison 2, Groups C, D; T6 Ta = -25°C to +70°C; Type 4X
Class I, Zone 2, Groups IIC

12. **Description of Equipment:**

General - The Process Wiring System is an interface wiring system designed to interconnect nonincendive equipment or intrinsically safe apparatus in hazardous locations with associated apparatus or control equipment. The system is comprised of multi-port junction boxes, device receptacles, molded quick-disconnect cordsets, connector guards, conduit body adapters, and accessories. The use of the connector guards (trademarked Lokfast by the manufacturer) and ITC-rated cabling enable the use of quick-disconnect connector technology in hazardous locations.

Model Codes

Minifast Network Wiring

Junction Bricks

Model No.	Description
JBBS-25-Mdef/h	Fieldbus junction brick, AS-I, passive
JBBS-25SC-Mdef/h	Fieldbus junction brick, AS-I, short circuit protected
JBBS-25SC-Mcf/SO/h	Fieldbus junction brick, AS-I, short circuit protected, w/spur shut-off
JBBS-57-Mdg/h	Fieldbus junction brick, D-Net, passive
JBBS- a-Mcef/h	Fieldbus junction brick, FF or PA, passive

a = Bus standard: 48 or 49.
c = Number of spurs: 6, or 8.
d = Number of spurs: 4, 6, or 8.
e = Enclosure material: 1, 2, or 5.
f = Connector material: 3 or 4.

g = Enclosure and connector material: 01, 11, 03, or 13.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank.

Minifast Cords

Model No.	Description
RKb cd-eM/h/j	Straight female molded cord
RSb cd-eM/h/j	Straight male molded cord
WKb-cd-eM/h/j	Right angle female molded cord
WSb cd-eM/h/j	Right angle male molded cord
RKbB cd-eM/h/j	Straight female molded cord, B-size body
RSbB cd-eM/h/j	Straight male molded cord, B-size body

b = Material: M or V.
c = Bus Standard: 25, 45, 48, 49 or 57.
d = Cable spec: 1-, 2-, or 3-digit alpha-numeric code.
e = Cable/lead length in meters.
f = Cable/lead type: T, 0 or blank.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank

Minifast Receptacles

Model No.	Description
RKFa cf-eM/g/h/j/k	Female receptacle, individual leads
RSFa cf-eM/g/h/j/k	Male receptacle, individual leads
RKFa cdf-eM/g/h/j/k	Female receptacle, integral cable
RSFa cdf-eM/g/h/j/k	Male receptacle, integral cable

a = Material: V or blank.
c = Bus Standard: 25, 45, 48, 49 or 57.
d = Cable spec: 1-, 2-, or 3-digit alpha-numeric code.
e = Cable/lead length in meters.
f = Cable/lead type: T, 0 or blank.
g = Thread: 14.5, 14.75, M20 or blank.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank
k = C1117 (special pin-out code)

Minifast Field-Wireable Connectors

Model No.	Description
Ba41b1-0/c/d	Female straight connector
BKa41b0-0/c/d	Female straight connector
Ba42b1-0/c/d	Female right angle connector
BKa42b0-0/c/d	Female right angle connector
BSa41b1-0/c/d	Male straight connector
BSa41b0-0/c/d	Male straight connector
BSa42b1-0/c/d	Male right angle connector
BSa42b0-0/c/d	Male right angle connector

a = Material: V or blank.

b = Number of contacts: 2-6.
c = Cable size accommodated.
d = Bus standard: ASI, DNET, FF, PA, PDP or blank.

Minifast Lokfast Guards

Model No.	Description
Lock-Mini	Locking guard for straight A-size minifast connectors
Lock-Mini-FW	Locking guard for minifast field wireable connectors
Lock-Mini-Angle	Locking guard for right angle A-size minifast molded connectors

Eurofast Network Wiring

Junction Bricks

Model No.	Description
JBBS-25-Edef/h	Fieldbus junction brick, AS-I, passive
JBBS-25SC-Edef/h	Fieldbus junction brick, AS-I, short circuit protected
JBBS-25SC-Ecf/SO/h	Fieldbus junction brick, AS-I, short circuit protected, w/spur shut-off
JBBS-57-Edg/h	Fieldbus junction brick, D-Net, passive
JBBS-a-Ecef/h	Fieldbus junction brick, FF or PA, passive

a = Bus standard: 48 or 49.
c = Number of spurs: 6 or 8
d = Number of spurs: 4, 6, or 8.
e = Enclosure material: 1, 2, or 5.
f = Connector material: 3 or 4.
g = Enclosure and connector material: 01, 11, 03, or 13.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank.

Eurofast Cords

Model No.	Description
RKGa cd-eM/h/j	Straight female G-body molded cord
RSGa cd-eM/h/j	Straight male G-body molded cord
RKCa-cd-eM/h/j	Straight female E-body molded cord
RSCa cd-eM/h/j	Straight male E-body molded cord
RKAa-cdA-eM/h/j	Straight female A-body molded cord, armored cable
RSAa-cdA-eM/h/j	Straight male A-body molded cord, armored cable

a = Material: V or blank.
c = Bus Standard: 25, 45, 48, 49 or 57.
d = Cable spec: 1-, 2-, or 3-digit alpha-numeric code.
e = cable/lead length in meters.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank.
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank.

Eurofast Receptacles

Model No.	Description
FKa cd-eM/g/h/j/k	Female receptacle, individual leads
FSa cd-eM/g/h/j/k	Male receptacle, individual leads
FKa cdf-eM/g/h/j/k	Female receptacle, individual leads

FSa cdf-eM/g/h/j/k	Male receptacle, individual leads

a = Material: V or blank.
c = Bus Standard: 25, 45, 48, 49 or 57.
d = Cable spec: 1-, 2-, or 3-digit alpha-numeric code.
e = Cable/lead length in meters.
g = Thread: 14.5, 14.75, M20 or blank.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank
k = C1117 (special pin-out code)

Eurofast Ethernet Cords

Model No.	Description
RSCa bd-eM/h/j	Straight male E-body molded cord
RSCDa cd-eM/h/j	Straight male E-body molded D-codecord
RSSa-bd-eM/h/j	Straight male shielded E-body molded cord
RSSDa cd-eM/h/j	Straight male shielded E-body molded D-code cord
RSSXa 86c-eM/h/j	Straight male X-code molded cord

a = Material: V or blank.
b = Bus Standard: 84 or 86.
c = Bus Standard: 42 or 44.
d = Pinout code: 0, 1, 2, 3, 4 or 5.
e = Cable/lead length in meters.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank

Eurofast Ethernet Receptacles

Model No.	Description
FKDDa 44d-eM/gh/j	Female receptacle, front panel, 4 conductor
FKFDDa cd-eM/h/j	Female receptacle, back panel, 4-conductor
FKFDa bd-eM/h/j	Female receptacle, back panel, 8-conductor
FKDa cd-eMg	Female receptical, front panel 4-conductor
FKa bd-eMg	Female receptical, back panel, 8-conductor

a = Material: V or blank.
b = Bus Standard: 84 or 86.
c = Bus Standard: 42 or 44.
d = Cable Designation: 1-,2-,3-, character alpha numeric code or blank.
e = Cable/lead length in meters.
g = Thread: 14.5, 14.75, M20 or blank.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank
j = Mold color options: S679, S771, S1055, S1057, S1126, S3001, S3034 or blank

Eurofast Field-Wireable Connectors

Model No.	Description
Ba81e1-0/c/d	Female straight connector
BKa81e0-0/c/d	Female straight connector

Ba82e1-0/c/d	Female right angle connector
BKa82e0-0/c/d	Female right angle connector
BSa81e1-0/c/d	Male straight connector
BSa81e0-0/c/d	Male straight connector
BSa82e1-0/c/d	Male right angle connector
BSa82e0-0/c/d	Male right angle connector

a = Material: V or blank.
c = Cable size accommodated.
d = Bus standard: ASI, DNET, FF, PA, PDP or blank.
e = Number of contacts: 4 or 5.

Eurofast Lokfast Guards

Model No.	Description
Lock-Euro	Locking guard for straight E-body eurofast connectors
Lock-Euro-FW	Locking guard for eurofast field wireable connectors
Lock-Euro-G	Locking guard for G-body eurofast molded connectors
Lock-Euro-C	Locking guard for E-body eurofast molded connectors

Minifast & Eurofast Network Wiring Junction Boxes

JBBS-48SC-abcdh. Junction Brick.
JBBS-49SC-abcdh. Junction Brick.
Nonincendive Field Wiring Parameters:
Rectangular Characteristic
Voc = 30 V, Isc = 63 mA, Po = 1.89W, Ca = 0.06 µF, La = 1 mH
Or
Voc = 28 V, Isc = 63 mA, Po = 1.76W, Ca = 0.1 µF, La = 1 mH

a = Connector style: E or M.
b = Number of spurs: 4, 6, or 8.
c = Enclosure material: 1, 2, or 5.
d = Connector material: 3 or 4.
h = Option S1331 (lanyard connected lokfast), S1599 (lanyard connected closure cap) or blank

JRBS-49SC-8 Series Fieldbus Junction
Nonincendive Field Wiring Parameters:
Rectangular Characteristic
Voc = 30 V, Isc = 63 mA, Ca = 0.06 µF, La = 1 mH
Or
Voc = 28 V, Isc = 63 mA, Ca = 0.1 µF, La = 1 mH

JRBS-49SC-aR Series Fieldbus Junction
Nonincendive Field Wiring Parameters:
Rectangular Characteristic
Voc = 30 V, Isc = 63 mA, Ca = 0.06 µF, La = 1 mH
Or
Voc = 28 V, Isc = 63 mA, Ca = 0.1 µF, La = 1 mH

a = Number of spurs: 4, 6, 8, 10, or 12

13. Specific Conditions of Use:

Junction Bricks

1. *All cabling runs must be ITC or PLTC cable types as defined by the NEC® or detailed on control drawing NI-2.401, with the approved lokfast Guard.*
2. *Use Turck installation drawing NI-2.401 in addition to NEC®*

JBBS-48SC & JBBS-49SC Fieldbus Junction Bricks

1. *When the installation of the Junction Brick is a wiring method other than nonincendive field wiring, then the Junction Brick may be used in Group A/ B areas, using ITC or PLTC cable types as defined by the NEC® or detailed on control drawing NI-2.401, with the approved lokfast Guard.*

JRBS-49SC Series Fieldbus Junction

1. *When using Division 2 wiring methods as defined by the NEC® other than nonincendive field wiring, then this Fieldbus Junction may be installed in Group A/ B areas.*
2. *The Fieldbus Junction shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.*

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
25th March, 2002	Original Issue.
25th April 2017	Supplement 10: Report Reference: – 3057587 dated 25th April 2017. Description of the Change: Updated to new format. Added model code options. Added Zone 2 equivalency.
22nd March 2018	Supplement 11: Report Reference: – RR212764 dated 22nd March 2018. Description of the Change: Corrected model codes.
20th April 2020	Supplement 12: Report Reference: – PR453899 dated 20th April 2020. Description of the Change: Re-examination of Nonincendive approval. Addition of Class II, Division 2, Groups E, F, & G. Major restructuring of the listing for clarity.

SCHEDULE

US Certificate Of Conformity No: FM17US0046X

12th October 2021	Supplement 13: Report Reference: – RR229781 dated 12th October 2021. Description of the Change: Added Models FKDa cd-eMg and FKa bd-eMg Eurofast Ethernet Receptacles to page 5 of the control drawing. Restructured page 5 of the control drawing.