1 EU-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** **FM13ATEX0055X**

4 **Equipment or protective system: (Type Reference and Name)** **FSV430 / 450 VortexMaster and FSS430 / 450 SwirlMaster**

5 **Name of Applicant:** **ABB Engineering (Shanghai) Ltd**

6 **Address of Applicant:** **No 4528, KangXin Highway, KangQiao Town, Pudong New District, Shanghai. 201319 P.R. China**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3048130 dated 27th February 2014

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012+A11:2013, EN 60079-11:2012 and EN 60529:1991+A1:2000+A2:2013

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 1 G Ex ia IIC T6…T4 Ga Ta = -40 °C to *
II 1 D Ex ia IIIC T85°C Da Ta = -40 °C to +75 °C
FISCO
* see Description

FM Approvals
Member of the FM Global Group

Digitally signed by Damien Mc Ardle
DN: cn=Damien Mc Ardle, o=FM Approvals, ou=FM Approvals Europe Ltd, email=damien.mcardle@fmapprovals.com, c=IE
Date: 2019.06.18 21:15:23 +01'00'

Damien Mc Ardle
Certification Manager, FM Approvals Europe Ltd.

Issue date: 18th June 2019

SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0055X

13 **Description of Equipment or Protective System:**

The FSV430 / 450 VortexMaster and FSS430 / 450 SwirlMaster are used for measuring the flowrate of gasses, steam, and liquids. An option is available for direct temperature measurements. These temperature measurements can be used to monitor the fluid temperature or for the measurement of saturated steam in mass units. These products utilize piezo technology to measure flow.

The flow measuring system is designed as a 2-wire instrument with the supply power and the current output signal (4-20 mA) using the same pair of connection leads. A separate contact output can be assigned for any one of the following functions: Pulse output, minimum, or maximum alarm (temperature or flow rate or system alarm). In addition to the HART communications configuration an optional Fieldbus and Profibus communications option is available

The electronics enclosure is mounted directly to the flowmeter. This enclosure has a tool secured access door. The enclosure is an epoxy painted aluminium and has the ability for conduit connections. The converter can be mounted remotely from the flowmeter when it is installed in a location difficult to access or when the ambient conditions at the flowmeter are extreme. A special cable is utilized to interconnect the flowmeter and the converter. After the installation has been completed, the cable can be cut to the length required to reach the remote flowmeter.

The equipment enclosure has an ingress protection rating of IP66/67.

Operation Temperature Ranges:
The minimum ambient operating temperature range of the SwirlMaster or VortexMaster is -40 °C.
The maximum ambient operating temperature range for use in dust is +75 °C.
The maximum ambient operating temperature range for use in gas is shown in the following tables.
Process temperature range is -200 °C to +400 °C.

Electrical data:
FSV/FSS 430/450 without Display option – Output signal = H1 or H5
Power Supply – Ci = 17 nF Li = 10 µH

Temperature Class	Ambient Temperature	Maximum input current	Maximum input voltage	Maximum input power	Maximum fluid temperature
T4	≤ 85 °C	100 mA	30 V	0.75 W	90 °C
	≤ 82 °C				180 °C
	≤ 81 °C				280 °C
	≤ 79 °C				400 °C
T4	≤ 70 °C	160 mA	30 V	1.0 W	90 °C
	≤ 67 °C				180 °C
	≤ 66 °C				280 °C
	≤ 64 °C				400 °C
T5	≤ 56 °C	100 mA	30 V	1.4 W	90 °C
	≤ 53 °C				180 °C
	≤ 52 °C				280 °C
	≤ 50 °C				400 °C
T6	≤ 44 °C	50 mA	30 V	0.4 W	90 °C
	≤ 41 °C				180 °C
	≤ 40 °C				280 °C
	≤ 38 °C				400 °C

SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0055X

FSV/FSS 430/450 with Display option L2 – Output signal = H1 or H5
Power Supply Circuit Terminals: PWR+/PWR- EXT
Power Supply – Ci = 17 nF Li = 10 µH

Temperature Class	Ambient Temperature	Maximum input current	Maximum input voltage	Maximum input power	Maximum fluid temperature
T4	≤ 60 °C	100 mA	30 V	0.75 W	90 °C
	≤ 57 °C				180 °C
	≤ 56 °C				280 °C
	≤ 54 °C				400 °C
T4	≤ 60 °C	160 mA	30 V	1.0 W	90 °C
	≤ 57 °C				180 °C
	≤ 56 °C				280 °C
	≤ 54 °C				400 °C
T5	≤ 56 °C	100 mA	30 V	1.4 W	90 °C
	≤ 53 °C				180 °C
	≤ 52 °C				280 °C
	≤ 50 °C				400 °C
T6	≤ 44 °C	50 mA	30 V	0.4 W	90 °C
	≤ 41 °C				180 °C
	≤ 40 °C				280 °C
	≤ 38 °C				400 °C

FSV/FSS 430/450 with Display option L1 – Output signal = H1 or H5
Power Supply Circuit Terminals: PWR+/PWR- EXT
Power Supply – Ci = 17 nF Li = 10 µH

Temperature Class	Ambient Temperature	Maximum input current	Maximum input voltage	Maximum input power	Maximum fluid temperature
T4	≤ 85 °C	100 mA	30 V	0.75 W	90 °C
	≤ 82 °C				180 °C
	≤ 81 °C				280 °C
	≤ 79 °C				400 °C
T4	≤ 70 °C	160 mA	30 V	1.0 W	90 °C
	≤ 67 °C				180 °C
	≤ 66 °C				280 °C
	≤ 64 °C				400 °C
T5	≤ 40 °C	100 mA	30 V	1.4 W	90 °C
	≤ 37 °C				180 °C
	≤ 36 °C				280 °C
	≤ 34 °C				400 °C
T6	≤ 40 °C ≤ 37 °C	50 mA	30 V	0.4 W	90 °C 180 °C
	≤ 36 °C				280 °C
	≤ 34 °C				400 °C

SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0055X

FSV/FSS 430/450 - Output signal = P1 and F1
Power Supply Circuit Terminals: PWR+/PWR- EXT
Ui = 24 Vdc
Ii = 250 mA
Pi = 1.2 W
Ci < 5 nF
Li < 10 µH

FSV/FSS 430/450 - Output signal = P1 and F1 with FISCO
Power Supply Circuit Terminals: PWR+/PWR- EXT
Ui = 17.5 Vdc
Ii = 380 mA
Pi = 5.32 W
Ci < 5 nF
Li < 10 µH

Output Parameters from the FSV/FSS 430/450 Remote Transmitter – Output signal = H1 or H5
Terminals: /M/R, HS, RX, DX, GND and VDD
Uo = 6.0 V
Io = 160 mA
W = 1.75 W
Co = 23.23 µF
Lo = 0

Output Parameters from the FSV/FSS 430/450 Remote Transmitter – Output signal = F1 or P1
Terminals: /M/R, HS, RX, DX, GND and VDD
Uo = 5.36 V
Io = 380 mA
W = 128.2 mW
Co = 36.3 µF
Lo = 69 µH

FSV/FSS 450 Contact Output and Analogue Input parameters
Analogue input circuit
Terminals: AI+, AI-
Analogue input circuit – Ci = 7 nF Li = 0

Temperature Class	Ambient Temperature Options other than Display Option = L1	Ambient Temperature Integrated display option = L1 only	Maximum input current	Maximum input voltage	Maximum input power	Maximum fluid temperature
T4	≤ 85 °C	≤ 60 °C	100 mA	30 V	0.75 W	90 °C
	≤ 82 °C	≤ 57 °C				180 °C
	≤ 81 °C	≤ 56 °C				280 °C
	≤ 79 °C	≤ 54 °C				400 °C
T4	≤ 70 °C	≤ 60 °C	160 mA	30 V	1.0 W	90 °C
	≤ 67 °C	≤ 57 °C				180 °C
	≤ 66 °C	≤ 56 °C				280 °C
	≤ 64 °C	≤ 54 °C				400 °C
T5	≤ 40 °C	≤ 56 °C	100 mA	30 V	1.4 W	90 °C
	≤ 37 °C	≤ 53 °C				180 °C
	≤ 36 °C	≤ 52 °C				280 °C

SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0055X

Temperature Class	Ambient Temperature Options other than Display Option = L1	Ambient Temperature Integrated display option = L1 only	Maximum input current	Maximum input voltage	Maximum input power	Maximum fluid temperature
	≤ 34 °C	≤ 50 °C				400 °C
T6	≤ 40 °C	≤ 44 °C	50 mA	30 V	0.4 W	90 °C
	≤ 37 °C	≤ 41 °C				180 °C
	≤ 36 °C	≤ 40 °C				280 °C
	≤ 34 °C	≤ 38 °C				400 °C

Contact Output Circuit
Terminals: DO+, DO-
Contact Output Circuit – Ci = 7 nF Li = 0

Temperature Class	Maximum input current	Maximum input voltage	Maximum input power
T4	30 mA	30 V	1.0 W
T4	30 mA	30 V	1.0 W
T5	30 mA	30 V	1.0 W
T6	30 mA	30 V	1.0 W

FSV430abcdefgh – Vortex Flow Transmitter – Integral Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; C1 or C2.
c = Process Connection Type / Meter Size / Connection Size: W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1 or F300R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SD*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2, NL*, NG* and/or NS*.
* = Any single character – Not relevant to safety.

FSV430abcdefgh – Vortex Flow Transmitter – Remote Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; R1 or R2.
c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1 or F300R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SC2, SC4, SC6, SD*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2, NL*, NG* and/or NS*.

* = Any single character – Not relevant to safety.

FSS430abcdefgh – Swirl Flow Transmitter – Integral Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; C1 or C2.
c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0 or F400R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SC2, SC4, SC6, SM1, SD*, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2 , NL*, NG* and/or NS*.
* = Any single character – Not relevant to safety.

FSS430abcdefgh – Swirl Flow Transmitter – Remote Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; R1 or R2.
c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0 or F400R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SC2, SC4, SC6, SM1, SD*, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2 , NL*, NG* and/or NS*.
* = Any single character – Not relevant to safety.

FSV450abcdefgh – Intelligent Vortex Flow Transmitter – Integral Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; C1 or C2.
c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, 150R3, F200R0, F200R1, F200R2, F250R0, F250R1 or F300R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR S1, SD*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TCC, TA4, TA5, U1, U2, NL*, NG* and/or NS*.
* = Any single character – Not relevant to safety.

FSV450abcdefgh – Intelligent Vortex Flow Transmitter – Remote Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; R1 or R2.
c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0,

W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, 150R3, F200R0, F200R1, F200R2, F250R0, F250R1 or F300R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3 or J4.
e = Temperature Range of Measuring Medium; A1, B1 or C1.
f = Housing Material / Cable Glands; A1, B1, S1 or T1.
g = Output Signal; F1, H1, H5 or P1.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR, S1, SC2, SC4, SC6, SD*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2 , NL*, NG* and/or NS*.
* = Any single character – Not relevant to safety.

FSS450abcdefgh – Intelligent Swirl Flow Transmitter – Integral Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; C1 or C2
c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0 or F400R0
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9,J0, J1, J2, J3 or J4
e = Temperature Range of Measuring Medium; A1, B1 or C1
f = Housing Material / Cable Glands; A1, B1, S1 or T1
g = Output Signal; F1, H1, H5 or P1
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR, S1, SD*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2, NL*, NG* and/or NS*
* = Any single character – Not relevant to safety

FSS450abcdefgh – Intelligent Swirl Flow Transmitter – Remote Sensor
a = Explosion Protection Certification; A4, B8 or B9
b = System Design; R1 or R2
c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0 or F400R0
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, or A9, J0, J1, J2, J3 or J4
e = Temperature Range of Measuring Medium; A1, B1 or C1
f = Housing Material / Cable Glands; A1, B1, S1 or T1
g = Output Signal; F1, H1, H5 or P1
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR, S1, SC*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SM8, SP0, SP1, SP2, SP3, TC1, TCC, TCZ, TCS, TA4, TA5, U1, U2, NL*, NG* and/or NS*
* = Any single character – Not relevant to safety

14 **Special Conditions for Safe Use:**

1. When the manufacturer of the equipment has not identified the type of protection on the label, the user shall, on installation, mark the label with the type of protection used.
2. The painted surface of the FSS/FSV may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in PD CLC/TR 60079-32-1 and IEC TS 60079-32-1. Cleaning of the painted surface should only be done with a damp cloth.
3. For option f (housing material) equals A1 or B1 the enclosure contains aluminium and is considered to present a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.

4. For option h = G4 - Enhanced EMC Protection, the barriers chosen shall be galvanically isolating types.
5. For Option b = R1 or R2 combined with Option g = P1 or F1 - Output Option, the barriers chosen shall be galvanically isolating types.

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 **Test and Assessment Procedure and Conditions:**

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
14th March 2014	Original issue
13th June 2014	Supplement 1: Report Reference: 3048130rev140506 dated 06th June 2014. Description of the Change: Addition of alternate manufacturing location.
14th October 2015	Supplement 2: Report Reference: 3055129 dated 06th October 2015 Description of the Change: 1. Update to the Applicant address 2. Addition of alternative HMI 3. Update to the Model code for the FSV/ FSS 430 and 450 SwirlMaster
06th April 2016	Supplement 3: Report Reference: 3054654 dated 05th April 2016 Description of the Change: 1. Addition of extended terminal housing 2. Addition of enhanced EMC option

SCHEDULE

to EU-Type Examination Certificate No. FM13ATEX0055X

Date	Description
21st February 2017	Supplement 4: Report Reference: 3057516 dated 19th February 2017. Description of the Change: 1. Add a new high temperature piezo sensor 2. Add optional material carbon steel for pipes and flanges 3. Add new graphite sheet gasket material with stainless steel insert for use with new piezo sensor. 4. Update standards used. 5. Update to EU certificate format.
04th May 2018	Supplement 5: Report Reference: RR212763 dated 25th April 2018. Description of the Change: Minor documentation update.
17th August 2018	Supplement 6: Report Reference: 3061811 dated 31st July 2018. Description of the Change: Addition of PA and FF Communication options.
16th April 2019	Supplement 7: Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.
18th June 2019	Supplement 8: Report Reference: RR218039 dated 24th May, 2019. Description of the Change: Modification to I/O Board. Addition of alterate manufacturing locations.

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

Blueprint Report

ABB Engineering (Shanghai) Ltd (135922)

Class No 3610

Original Project I.D. 3048130

Certificate I.D. FM13ATEX0055X

Drawing No.	Revision Level	Drawing Title	Last Report
3KQR065015U0300	02	Wire Grounding-Dongwei	3061811
3KQZ207073U0122	0	TERMINAL BLOCK MULTIVARIABLE VERSION (DH3119 REV 1)	3048130
3KQZ207074U0122	0	TERMINAL BLOCK MULTIVARIABLE HART SURGE PROTECTED (DH3131 REV 0)	3048130
3KQZ207074U0123	0	Terminal Block Hart+Surge-Multivariable	3048130
3KXF065000G0133	2014-4-24	Supplier Control Plan-Ex relevant items for approval	6-May-14
3KXF065000G0233	2014-4-24	ABB PRU PMU Control plan-Ex item for approval	6-May-14
3KXF065017U0122	1.7	VT5 Front End schematic	RR212763
3KXF065017U0122	1.5	VT5 Front End Schmatic - Analog	3061811
3KXF065017U0123	1.5	VT5 Front End PCB Layout	3048130
3KXF065026U0009	03	FSV/FSS 430/450 REMOTE HOUSING SUB ASSEMBLY	3048130
3KXF065028U0109	3	FSS/FSV 430/450 Remote Assembly For Ex Certificattion	3055129
3KXF065028U0109	03	Remote Assembly for Ex Certification	3061811
3KXF065029U0109	2	FSV/FSS 430/450 INTEGRAL BASE BOTTOM SUB ASSEMBLY	3055129
3KXF065032U0109	2	FSS/FSV 430/450 Integral verison Assembly For Ex Certificattion	3048130
3KXF065047U0022	1.1	VT5 Remote connection board schematic	3048130
3KXF065047U0023	1.3	VT5 Remote connection board Layout	3055129
3KXF065062U0009	1	VT5 Remote connection board Assembly	3048130
3KXF065062U0121	1	VT5 Remote Connection 2 BOM	3048130
3KXF065062U0221	1.1	VT5 Remote Connection 3 BOM	3048130
3KXF065062U0321	1	VT5 Remote Connection 1 BOM	3048130
3KXF065064U0109	1.3	VT5 Front End Assembly	3048130
3KXF065064U0121	1.8	BOM of VT5 Front end	RR212763
3KXF065081U0009	3	VT5 Remote Housing Sub-Asm,FOR NON-FLAMEPROOF CERTIFICATION	3048130
3KXF065090U0109	2	FSV/FSS 430/450 Terminal Block sub-asy, 9 termianls, Without surge protector, hart	3055129
3KXF065091U0109	2	FSV/FSS 430/450 Terminal block sub-asy, 9 termianls, With surge protector, hart	3055129
3KXF065097U0109	2	FSV/FSS 430/450 Terminal Block sub-asy, 9 terminals for remote connection	3055129
3KXF065124U0109	2	VT5 INTEGRAL BASE BOTTOM SUB-ASSY,FOR NON-FLAMEPROOF CERTIFICATION	3055129
3KXF065215U0109	5	Control drawing	3054654
3KXF065215U0109	06	Control Drawing	3061811
3KXF065279U0121	02	Communicatio Board MODBUS - VT5 BOM	3061811
3KXF065280U0109	0	Communication Box Sub-Assembly, MODBUS VT5	3055129
3KXF065282U0109	0	Terminal block sub-assembly Modbus surge version	3055129
3KXF065313U0121	0	BOM of VT5 MODBUS IO Board	3055129
3KXF065313U0122	0	VT5 MODBUS IO Board Schematic	3055129
3KXF065313U0123	0	VT5 MODBUS IO Board Layout	3055129
3KXF065424U0722	00	9-Pin Enhanced Terminal Board for VT5 PA/FF	3061811
3KXF065501U0009	00	Front End & Housing PA/FF	3061811
3KXF300001R2101	I	Product Code	3057516
3KXF300003R4099	B	Safety Manual	3048130
3KXF300003R4401	F	FSV430, FSV450, FSS430, FSS450 SAFETY INSTRUCTIONS	3057516
3KXF300004R4801	A	Installation Manual (Extract)	3061811
3KXP000003U0122	0	Communication Board MODBUS - Multivariable	3055129
3KXP000003U0123	1	Communication Board MODBUS Multivariable T-Flow	3055129
3KZZ000006R2201	C	3KZZ000006R2201-C (March 2014) - BU MP Guidelines for Single Approval Certificate in Multiple Locations.pdf	6-May-14

3kxf065032u0109	03	Intergral Version Assembly for Ex Certification	3061811
AU 3042	2	Part List - COMMON HMI : Type B	3055129
AU 3048	2	Display "Type B" Assembly	3055129
DH 3084	2	Common HMI : Type B	3055129
DH 3091	2	Common HMI : Type B	3055129
DH 3137	1	Terminal Block MODBUS Surge version	3055129
DH 3138	3	MILE 2 Series: Terminal Block Modbus + Surge	3055129
DH3133	00	Terminal Block Multivariable Surge Protected	3061811
IECEx FME 13.0001U	1	Component Certificate 2WCTW	3048130
IECEx FME17.0002U	01	IECEx Component Certificate for PA/FF	3061811
WDM-10-A0214	1	Piezo-sensor	3048130