MSA
The Safety Company

Addendum to

ULTIMA® X5000 Gas Monitor System

Operating Manual 10177361

Order No.: 10182779/07
Print Spec.: 10000005389(EO)
CR 800000042739

Manufacturer: MSA THE SAFETY COMPANY
Address: 1000 Cranberry Woods Drive, Cranberry Township, PA 16066 USA

Product: ULTIMA® X5000 GAS MONITOR consisting of an ULTIMA® X5000 MAIN TRANSMITTER, optional DIGITAL SENSOR, optional ULTIMA® XIR PLUS, optional X5000 JUNCTION BOX, JB5000 JUNCTION BOX.

Certification and Markings

Certificate of Compliance (USA & Canada):	FM20US0060X, 70116284 (LR 064969_0_000)
EU – Type Examination Certificate:	Sira 17ATEX1049X and Sira 17ATEX4239X
IECEx Certificate of Conformity:	IECEx SIR 17.0017X
INMETRO Certificate of Conformity:	NCC 18.0106 X
Quality Assurance Notification:	0080
Year of Manufacture:	See serial number
Serial No.:	See label

STANDARDS: HAZARDOUS LOCATIONS AND GAS PERFORMANCE*

Standard	Location	ULTIMA® X5000 MAIN TRANSMITTER	JB5000 and X5000 JUNCTION BOX	ULTIMA XIR PLUS	DIGITAL SENSOR with Frit	DIGITAL SENSOR without Frit
ANSI/IEC 60529-2004 (r. 2011)	USA	X	X	X	X	X
ANSI/ISA 12.12.01-2015		X	X	X	X	X
UL 60079-0 2019		X	X	X	X	X
ANSI/ISA 60079-1 (12.22.01) -2013		X	X	X	X	
ANSI/ISA 60079-15 (12.12.02)-2012		X	X	X	X	X
ANSI/ISA 60079-31 (12.10.03)-2015		X	X		X	
ANSI/ISA 61010-1 (82.02.01) Third Edition		X	X	X	X	X
ANSI/ISA-60079-29-1 (12.13.01)-2013		X	X	X	X	
ANSI/UL 50 (Thirteenth Edition)		X	X	X	X	X
ANSI/UL 50E (Second Edition)		X	X	X	X	X
FM Class 3600:2011			X			
FM Class 3600:2018		X		X	X	X
FM Class 3611:2004			X			
FM Class 3611:2018		X		X	X	X
FM Class 3615:2006		X	X	X	X	
FM Class 3616:2011		X	X		X	
FM Class 3810:2005		X	X	X	X	X
FM Class 6320:2014		X	X	X	X	
FM Class 6340:2018					X	
UL 121201 (2017)		X	X	X	X	X

US

Standard	Location	ULTIMA® X5000 MAIN TRANS-MITTER	JB5000 and X5000 JUNCTION BOX	ULTIMA XIR PLUS	DIGITAL SENSOR with Frit	DIGITAL SENSOR without Frit
CAN/CSA 60079-0:15	Canada	X	X	X	X	X
CAN/CSA C22.2 No 213-17		X	X	X	X	X
CAN/CSA C22.2 No 60079-15:16		X	X	X	X	X
CAN/CSA C22.2 No. 0-10		X	X	X	X	X
CAN/CSA C22.2 No. 25-1966		X	X	X	X	X
CAN/CSA C22.2 No. 30-1986		X	X	X	X	
CAN/CSA C22.2 No. 60079-1:17		X	X	X	X	
CAN/CSA C22.2 No. 60079-29-1:12		X	X	X	X	X
CAN/CSA C22.2 No. 60079-31:15		X	X		X	
CAN/CSA C22.2 No. 60529:05 (r. 2015)		X	X	X	X	X
CAN/CSA C22.2 No. 61010-1-12		X	X	X	X	X
CAN/CSA C22.2 No. 94.1-15		X	X	X	X	X
CAN/CSA C22.2 No. 94.2-15		X	X	X	X	X
CAN/CSA-C22.2 No. 60079-0:15		X	X	X	X	X
CSA C22.2 No. 152-M1984		X	X	X	X	
EN 60079-0 2018	Europe/ ATEX	X	X	X	X	X
EN 60079-1:2014		X	X	X	X	
EN 60079-15:2010		X	X	X	X	X
EN 60079-29-1:2016		X	X	X	X	
EN 60079-31:2014 Ed. 2		X	X		X	
IEC 60079-0 2018 Ed. 7	IECEx	X	X	X	X	X
IEC 60079-1:2014 Ed. 7		X	X	X	X	
IEC 60079-15:2010 Ed. 4		X	X	X	X	X
IEC 60079-29-1:2016 Ed. 2		X	X	X	X	
IEC 60079-31:2013 Ed. 2		X	X		X	

NOTE: For additional applicable standards refer to the EU Declaration of Conformity, document number 10000094287.

* Not include FM Approvals, see FM approvals for standards

US

HAZARDOUS LOCATIONS

ULTIMA® X5000 GAS MONITOR SYSTEM	USA	CANADA	ATEX	IECEx
ULTIMA® X5000 MAIN TRANSMITTER (without relays)	Class I, Division 1, Groups A, B, C, D T6 Class II, Division 1, Groups E, F, G T6; Class III, T6 **Class I, Zone 1, AEx db IIC T6 Gb Zone 21, AEx tb IIIC T85 °C Db	Class I, Division 1, Groups A, B, C, D T6 Class II, Division 1, Groups E, F, G T6; Class III, T6 Class I, Zone 1, Ex db IIC T6 Gb Ex tb IIIC T85 °C Db	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85°C Db	Ex db IIC T6 Gb Ex tb IIIC T85 °C Db
	Class I, Division 2, Groups A, B, C, D T4 **Class I, Zone 2, AEx nA IIC T5 Gc	Class I, Division 2, Groups A, B, C, D T4 Ex nA IIC T5 Gc	Ex nA IIC T4 Gc	Ex nA IIC T4 Gc
	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66
JB5000 and X5000 JUNCTION BOX (P/N's 10179509, 10179511, 10179513, 10213879, 10213893, ordered separately) - Certified Ex Equipment	Class I, Division 1, Groups A, B, C, D T6 Class II, Division 1, Groups E, F, G; T6 Class III, T6 **Class I, Zone 1, AEx db IIC T6 Gb Zone 21, AEx tb IIIC T85 °C Db	Class I, Division 1, Groups A, B, C, D T6 Class II, Division 1, Groups E, F, G T6 Class III, T5 Ex db IIC T5 Gb Ex tb IIIC T85 °C Db	II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T85 °C Db	Ex db IIC T6 Gb Ex tb IIIC T85 °C Db
	Class I, Division 2, Groups A, B, C, D T6 **Class I, Zone 2, AEx nA IIC T6 Gc	Class I, Division 2, Groups A, B, C, D T6 Ex nA IIC T6 Gc	II 3G Ex nA IIC T6 Gc	Ex nA IIC T6 Gc
	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66
ULTIMA XIR PLUS - Certified Ex equipment	Class I, Division 1, Groups A, B, C, D T4 Class II, Division 1, Groups E, F, G T4 Class III, T4 **Class I, Zone 1, AEx db IIC T4 Gb	Class I, Division 1, Groups A, B, C, D T4 Class II, Division 1, Groups E, F, G T4 Class III; T4 Ex db IIC T4 Gb	II 2G Ex db IIC T5 Gb	Ex db IIC T5 Gb
	Class I, Division 2, Groups A, B, C, D T5 Class I, Zone 2, AEx nA IIC T5 Gc	Class I, Division 2, Groups A, B, C, D T5 Ex nA IIC T5 Gc	II 3G Ex nA IIC T5 Gc	Ex nA IIC T5 Gc
	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: Type 4X, IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66	-40 °C < Ta < +60 °C Enclosure rating: IP66
DIGITAL SENSOR (with Frit) - Certified Ex equipment	Class I, Division 1, Groups A, B, C, D T5 Class II, Division 1, Groups E, F, G T5 Class III, T5 **Class I, Zone 1, AEx db IIC T4 Gb Zone 21, AEx tb IIIC T85 °C Db	Class I, Division 1, Groups A, B, C, D T5 Class II, Division 1, Groups E, F, G T5 Class III, T5 Ex db IIC T4 Gb Ex tb IIIC T85 °C Db	II 2G Ex db IIC T5 Gb II 2D Ex tb IIIC T85 °C Db	Ex db IIC T5 Gb Ex tb IIIC T85 °C Db
	Class I, Division 2, Groups A, B, C, D T5 **Class I, Zone 2, AEx db nA IIC T5 Gc	Class I, Division 2, Groups A, B, C, D T5 Ex db nA IIC T5 Gc	II 3G Ex db nA IIC T5 Gc	Ex db nA IIC T5 Gc
	-55 °C < Ta < +60 °C Enclosure rating: Type 3X, IP65	-55 °C < Ta < +60 °C Enclosure rating: Type 3X, IP65	-55 °C < Ta < +60 °C Enclosure rating: IP65	-55 °C < Ta < +60 °C Enclosure rating: IP65
DIGITAL SENSOR (without Frit) - Certified Ex equipment	**Class I, Division 2, Groups A, B, C, D T5 **Class I, Zone 2, AEx nA IIC T5 Gc	Class I, Division 2, Groups A, B, C, D T5 Ex nA IIC T5 Gc	II 3G Ex nA IIC T5 Gc	Ex nA IIC T5 Gc
	-55 °C < Ta < +60 °C Enclosure rating: IP55	-55 °C < Ta < +60 °C Enclosure rating: IP55	-55 °C < Ta < +60 °C Enclosure rating: IP55	-55 °C < Ta < +60 °C Enclosure rating: IP55

US

PERFORMANCE

ULTIMA® X5000 GAS MONITOR SYSTEM	USA CANADA ATEX IECEx
ULTIMA® X5000 MAIN TRANSMITTER	Combustible: Methane, Propane, Acetone*, Benzene*, Ethanol*, Ethylene*, Ethylene oxide*, Isopropanol*, Hexane*, Methyl methacrylate* Measuring Range: 0-100% LEL
X5000 JUNCTION BOX & JB5000 (P/N's 10179509, 10179511, 10179513, 10213879, 10213893 ordered separately) - Certified Ex Equipment	
DIGITAL SENSOR - Certified Ex equipment. In order to maintain the combustible performance of the system this must be connected to the ULTIMA® X5000 MAIN TRANSMITTER or to the ULTIMA® X5000 MAIN TRANSMITTER through the X5000 JUNCTION BOX	
ULTIMA XIR PLUS - Certified Ex equipment. In order to maintain the combustible performance of the system this must be connected to the ULTIMA® X5000 MAIN TRANSMITTER or to the ULTIMA® X5000 MAIN TRANSMITTER through the X5000 JUNCTION BOX OR JB5000	

* Not covered by the FM Approval

⚠ WARNING!

- READ AND UNDERSTAND ALL INSTRUCTIONS, WARNINGS AND CAUTIONS PRIOR TO INSTALLATION OF ANY COMPONENTS OF THIS SYSTEM.
- FOR SAFETY REASONS THIS EQUIPMENT MUST BE OPERATED AND SERVICED BY QUALIFIED PERSONNEL ONLY. DO NOT OPERATE THIS EQUIPMENT UNTIL AFTER THE INSTRUCTION MANUAL IS READ AND UNDERSTOOD FOR PROPER INSTALLATION AND OPERATION.
- REFER TO CERTIFICATION FOR SPECIFIC OR SPECIAL CONDITIONS OF USE.

FIRE AND SHOCK HAZARDS

- LIVE CIRCUITS BEHIND COVER, DISCONNECT OR OPEN THE CIRCUIT BEFORE REMOVING THE COVER TO THE ULTIMA® X5000 MAIN TRANSMITTER OR X5000 JUNCTION BOX AND DO NOT SEPARATE PLUGGABLE CONNECTORS WHEN ENERGIZED.

HAZARDOUS LOCATIONS HAZARDS

- SEALING REQUIREMENTS: THE FOLLOWING OPTIONS SHALL HAVE A SEAL INSTALLED WITHIN 2 in (50 mm) OF THE ENCLOSURE:
  - ALUMINUM X5000 TRANSMITTER WITH AND WITHOUT RELAY CONTACTS
  - ALUMINUM X5000 JUNCTION BOX
  - STAINLESS STEEL X5000 TRANSMITTER WITH RELAYS
- THE FOLLOWING EQUIPMENT DO NOT REQUIRE A SEAL:
  - STAINLESS STEEL X5000 TRANSMITTER WITHOUT RELAY CONTACTS
  - STAINLESS STEEL X5000 JUNCTION BOX
  - STAINLESS STEEL JB5000 JUNCTION BOX
- FM APPROVALS REQUIRE SEAL WITHIN 18" FOR ALL ENCLOSURES
- ALL WIRING TO OR FROM THIS DEVICE, MUST UTILIZE WIRING METHODS SUITABLE FOR THE AREA CLASSIFICATION AND APPLICABLE PROTECTION METHODS AS APPROPRIATE FOR THE INSTALLATION AND IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
- DO NOT OPEN WHEN ENERGIZED OR WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.
- UNDER CERTAIN EXTREME CIRCUMSTANCES, THE NON-METALLIC PARTS INCORPORATED IN THE ENCLOSURE OF THIS EQUIPMENT MAY GENERATE AN IGNITION-CAPABLE LEVEL OF ELECTROSTATIC CHARGE.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD. CLEAN EQUIPMENT ONLY WITH DAMP CLOTH.
- THE FLAMEPROOF JOINTS SHALL NOT BE REPAIRED.
- USE CABLE WITH INSULATION RATED AT LEAST 85 °C.
- WHEN INSTALLING ULTIMA X5000 TRANSMITTER WITH RELAY OPTION IN A DIVISION 2 OR ZONE 2 CLASSIFIED AREA. INSTALL IN ACCORDANCE WITH DIVISION 1/EXPLOSIONPROOF OR ZONE 1/FLAMEPROOF WIRING PRACTICES AS APPLICABLE.

COMBUSTIBLE PERFORMANCE

- THIS FIXED EQUIPMENT APPARATUS IS EXCLUSIVELY DESIGNED FOR FIELD MOUNTING IN THE VERTICAL ORIENTATION WITH RESTRICTIONS PLACED AROUND THE CONDUIT ENTRY LOCATIONS PERMITTED FOR CONNECTION OF THE BOTH THE DIGITAL SENSOR AND ULTIMA® XIR PLUS INFRARED (IR) SENSORS. THE EQUIPMENT IS SUBJECT TO THE INSTALLATION AND ORIENTATION REQUIREMENTS DEFINED IN THE PRODUCT MANUAL.

US

- NO INGRESS PROTECTION CLAIMS ARE MADE FOR COMBUSTIBLE GAS DETECTION PERFORMANCE.
- NOT PERFORMANCE APPROVED FOR CLASS II, CLASS III, ZONE 21. THE DIGITAL SENSOR MAY BECOME CLOGGED AND NOT DETECT GAS OR WARN USER OF INABILITY TO DETECT GAS.
- REGULARLY VISUALLY INSPECT THE SENSOR AND APPLY GAS TO ENSURE A CLEAR GAS PATH TO THE SENSOR IF THERE IS POTENTIAL THAT BLOCKAGE HAS OCCURRED. CONDITIONS THAT MAY LEAD TO BLOCKAGE, INCLUDING BUT NOT LIMITED TO SNOW, ICE, WATER, DIRT DUST OR INSECTS, NECESSITATE MORE FREQUENT INSPECTIONS.
- DURING CALIBRATION THE AREA MUST BE FREE OF FLAMMABLE GASES.
- A HIGH OFF-SCALE READING MAY INDICATE AN EXPLOSIVE CONCENTRATION OF COMBUSTIBLE GAS.
- THE DIGITAL SENSOR AND ULTIMA® XIR PLUS SENSORS DESIGNED FOR EXCLUSIVE USE WITH THE ULTIMA® X5000 GAS MONITOR SYSTEM.
- THE ULTIMA® X5000 GAS MONITOR FIXED GAS DETECTION SYSTEM COMPLIES WITH EN 50271 (CLAUSE 4.8, SAFETY INTEGRITY ASSESSMENT EXCLUDED FROM THE ASSESSMENT).
- USE OF SOME ACCESSORIES ARE NOT COVERED UNDER THE PERFORMANCE APPROVAL, CONTACT MSA FOR DETAILS.

  FAILURE TO FOLLOW THE ABOVE WARNINGS CAN RESULT IN SEVERE PERSONAL INJURY OR LOSS OF LIFE.

China Ex Approval

Product Name:	Gas Detector
Model:	ULTIMA X5000
Ex marking:	Ex db IIC T5 Gb
	Ex tb IIIC T85°C Db
	Ex nA IIC T5 Gc
Ex cert. No.:	CE18.5128X
Warning:	Potential charging hazardous, please refer to the relevant page of the instruction.
	Use cable with insulation rated at least 85 °C.
	When cleaning, wipe with a wet cloth.
Rated Voltage:	11-30VDC
Rated Current:	MAX. 4.0A
Output Alarm Relay Rating:	250VAC or 30VDC, 5A

US