

Certificate of Compliance

Certificate: 80011766 Master Contract: 155295

Project: 80011766 **Date Issued:** 2019-11-25

Issued to: ABB Inc.

3400 Rue Pierre-Ardouin Quebec, Quebec G1P 0B2

CANADA

Attention: Jean-Francois Ferland

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by:A Traverse
A Traverse

PRODUCTS

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive - Systems-For Hazardous Locations-Certified to U.S. Standards

Class I, Division 1, Groups C and D T6...T1 (Provides I.S. output to Sensor)

Class II, Division 1, Groups E, F and G T6...T1

Class I, Zone 0/1 AEx ia/db IIB T6...T1 Ga/Gb

Zone 20/21 AEx ia/tb IIIC T77°C...T358°C Da/Db

Ex ia/db IIB T6...T1 Ga/Gb

Ex ia/tb IIIC T77°C...T358°C Da/Db

 $-50^{\circ}C < T_{amb} < 70^{\circ}C$

 $-50^{\circ}C < T_{amb} < 75^{\circ}C$

 $-50^{\circ}C < T_{amb} < 85^{\circ}C$

*See conditions of acceptability for Temperature Class Assignment



LWT300/400 (Modbus) Series Guided Wave Level Transmitter (Local Mount)

The LWT300/400 series of level transmitters is a modular range of field-mounted, microprocessor-based electronic transmitters relying on guided wave radar technology. Equipment is rated for a maximum process temperature of 450°C. Enclosure is rated for IP66/68, Type 4X,6P and Single/Dual Process Seal marking. Transmitter enclosure (Top Works) and front end assembly utilizes explosion proof or dust ignition proof protection.

Model:

LWT series level transmitter

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive - Systems-For Hazardous Locations-Certified to U.S. Standards

Class I, Division 1, Groups C and D T6...T5 (Provides I.S. output to Sensor) Class II, Division 1, Groups E, F and G T6...T5 Class I, Zone 1 AEx db [ia Ga] IIB T6...T5 Gb Zone 21 AEx tb [ia Da] IIIC T77°C...T87°C Db Ex db [ia Ga] IIB T6...T5 Gb Ex tb [ia Da] IIIC T77°C...T87°C Db

 $-50^{\circ} C < T_{amb} < 75^{\circ} C$ $-50^{\circ} C < T_{amb} < 85^{\circ} C$

LWT300/400 (Modbus) Series Guided Wave Level Transmitter (Remote Mount)

The LWT300/400 series of level transmitters is a modular range of field-mounted, microprocessor-based electronic transmitters relying on guided wave radar technology. Equipment is rated for a maximum process temperature of 450°C. Enclosure is rated for IP66/68, Type 4X,6P and Single/Dual Process Seal marking. Transmitter enclosure (Top Works) and front end assembly utilizes explosion proof or dust ignition proof protection. Remote mount relates to top works enclosure/front end assembly, and probe mount located separately, communication is facilitated by way of interconnecting cable assembly.

Model:

LWT series level transmitter

^{*}See conditions of acceptability for Temperature Class Assignment



Conditions of Acceptability:

- 1. Installation in USA shall be in accordance with the manufacturer's instructions and the National Electrical Code®, ANSI/NFPA 70. Installations in Canada shall comply with the relevant requirements of the Canadian Electrical Code (CSA C22.1).
- 2. For installation in US. Seal all conduits within 18 inches.
- 3. For installation in Canada, Seal all conduits within 50mm.
- 4. Flameproof joint repair must not be conducted by the end user.
- 5. The equipment presents a potential risk of electrostatic sparking. Clean only with a damp cloth.
- 6. The following temperature matrix applies to the transmitter electronics and housing. Probes are simple apparatus, not subject to electrical-self heating under normal or fault conditions. Probe temperature in service will be a function of the ambient and process temperatures:

Coupler Type	Max T _{process} °C	Max Tambient °C	Transmitter Temperature Class					
			Ex db	XP Cl I Div 1	Dust Cl II Div 1	Ex tb (T_°C)		
Local Probe Configuration								
S, H1	80	75		T6		77		
S, H1	95	85		T5		89		
S, H1	130	85		T4		105		
S, H1	204	85	T3			138		
H2	80	75	T6		79			
H2	95	85	T5		92			
H2	130	85	T4		118			
H2	230	85	T3		192			
H2	343	75		T2		272		
H3	80	75		T6		79		
H3	95	85		T5		93		
H3	130	85		T4		119		
H3	230	85		T3		195		
Н3	340	75		T2		276		
H3	450	70		T1		358		
C1	80	75		T6		77		
C1	95	85		T5		89		
C1	100	85		T4		92		
Remote Probe Configuration								
All Versions	-	75		T6		77		
All Versions	-	85		T5		87		

- 7. Cable glands and blanking elements (when used to blank unused entries) must be suitably certified for the protection type selected for equipment installation.
- 8. Cable glands for Zone 21 US applications must comply with UL 2225.
- 9. Light metals can generate ignition-capable sparks when subjected to impact or friction.
 - a. Transmitter enclosure: When installed in Zone 0, 1, 20, 21 (EPL Ga, Gb, Da, Db required), transmitter enclosures which are constructed of aluminum alloy shall be protected such that sparks resulting from impact or friction cannot occur, taking into account rare malfunctions. Where special housing type is present, it is the responsibility of the installer to determine if the transmitter housing is constructed of aluminum alloy.
 - b. Probe: When installed in Zone 0, 1, 20, 21 (EPL Ga, Gb, Da, Db required), probes which are constructed of light metals, including aluminum, magnesium, titanium or zirconium shall be protected such that sparks resulting from impact or friction cannot occur, taking into account rare malfunctions. Where special probe type is present, it is the responsibility of the installer to determine if the probe incorporates light metals.
- 10. The transmitter does not provide isolation from earth. When installed as Ex ia, the associated apparatus used to limit energy to the transmitter shall provide isolation from earth at not less than 500 Vrms.



APPLICABLE REQUIREMENTS

CSA 22.2 No.30 M1986 (R2007) CSA 22.2 No.25 – 17	-	Explosion-proof enclosures for use in class I hazardous locations Enclosures for use in Class II, Division 1, Groups E, F, and G
		hazardous locations
FM 3600:2018	-	Electrical Equipment for Use in Hazardous (Classified)
FN 2615 2010		Locations – General Requirements
FM 3615:2018	-	Approval Standard for Explosion proof Electrical Equipment,
FM 3616:2011		General Requirements Approval Standard for Dust-Ignition proof Electrical Equipment
TWI 3010.2011	-	General Requirements
CSA C22.2 No.60079-0:2019	_	Explosive atmospheres. Equipment general requirements
CSA C22.2 No.60079-1:2016	_	Explosive atmospheres. Equipment protection by flameproof
		enclosures "d"
CSA C22.2 No.60079-11:2014	-	Explosive atmospheres - Part 11: Equipment protection by
CSA C22.2 No.60079-26:2016		intrinsic safety "i" Explosive atmospheres. Equipment with Equipment Protection
CSA C22.2 No.00079-20.2010	-	Level (EPL) Ga
CSA C22.2 No.60079-31:2015	_	Explosive atmospheres. Equipment dust ignition protection by
		enclosure "t"
ANSI/UL 60079-0:2019	-	Explosive atmospheres. Equipment general requirements
ANSI/UL 60079-1:2015	-	Explosive atmospheres. Equipment protection by flameproof enclosures "d"
ANSI/ISA 60079-11:2014	-	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
ANSI/UL 60079-26:2017	_	Explosive atmospheres. Equipment with Equipment Protection
		Level (EPL) Ga
ANSI/UL 60079-31:2015	-	Explosive atmospheres. Equipment dust ignition protection by enclosure "t"
CSA 22.2 No.61010-1:2012	_	Safety requirements for electrical equipment for measurement,
		control, and laboratory use - Part 1: General requirements
ANSI/ISA 61010-1:2012	-	Safety Requirements for Electrical Equipment for Measurement,
		Control, and Laboratory Use – Part 1: General requirements
ANSI/ISA 12.27.01:2011	-	Requirements for Process Sealing Between Electrical Systems
		and Flammable or Combustible Process Fluids
ANSI/IEC 60529:2004	-	Degrees of Protection Provided by Enclosures (IP Code)
CSA C22.2 No. 60529:2005 (R2015)	-	Degrees of Protection Provided by Enclosures (IP Code)
UL 50E:2015	-	Enclosures for electrical equipment, environmental considerations
CSA C22.2 No. 94.2:2015		Enclosures for electrical equipment, environmental
CSA C22.2 INU. 74.2.2013	-	considerations
		Considerations



MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Equipment is marked with the following:

- Company Name
- Model number
- Serial number
- Date code
- Electrical rating
- Ambient Temperature Range
- Hazardous locations designation
 A reference to installation instructions
- CSA19CA80011766
- The following statement, or its equivalent: For USA: "SEAL ALL CONDUITS WITHIN 18 INCHES", or For Canada: "SEAL ALL CONDUITS WITHIN 50mm" and 'UN SCELLEMENT DOIT ENTRE INSTALLEA MOINS DE 50mm DU BOITIER'.
- Single Seal/Dual Seal
- IP 66/68
- Type 4X, 6P



Supplement to Certificate of Compliance

Certificate: 80011766 Master Contract: 155295

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80011766	2019-11-25	Prime model certification of LWT300/400 MODBUS communication protocol.