

APPROVALS / STANDARDS

ISO 9000
CRN
UL
ULC
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3A

ASME B40
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FCI
CE

CAN. DEPT. OF DEFENSE
U.S. DEPT. OF DEFENSE
U.S. NAVY
U.S. COAST GUARD

WINTERS APPROVALS/CERTIFYING AGENCIES

Safety is of utmost importance when utilizing industrial instrumentation especially the use of transmitters or other electrical equipment. Some of the more common concerns are: contamination due to faulty equipment, protection from electromagnetic interference and meeting strict safety requirements in potentially explosive environments. Winters' customers rely on certifying agencies such as Factory Mutual, Canadian Standards Association and Underwriters Laboratories to ensure that these products are safe. These agencies examine, test and certify that each product has been designed to meet specific standards for certain applications, hazardous locations or specific electrical situations.

Certifying agencies enable Winters to mark approved products with the corresponding standard committee's label ensuring that these particular products have been tested and meet those specific standards.



CRN



ISA

NACE

NEMA

ASME



ANSI



ISO 9000



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3A



The objective of the 3A Sanitary Standards Committee is to formulate standards and accepted practices for equipment and systems used to process milk and milk products. Such standards are developed through all levels of sanitarians, equipment manufacturers and equipment users so those standards are acceptable to those involved in the sanitary aspects of dairy and related industries. The 3A Symbol Administrative Council authorizes manufacturers to display the 3A symbol on processing equipment that is in compliance with 3A Sanitary Standards.



FM: FACTORY MUTUAL



The Factory Mutual Approvals Division determines the safety and reliability of equipment, materials or services utilized in hazardous locations in the United States and elsewhere. For a product to receive FM approval, it must meet two criteria. Initially, it must perform satisfactorily, reliably and repeatedly as applicable for a reasonable life expectancy. Secondly, it must be produced under high quality control conditions. Factory Mutual also has inter-laboratory agreements and can certify to Canadian and European standards.



CSA



The Canadian Standards Association (CSA) includes Canadian consumers, manufacturers, labour, government, and other regulatory agencies among its actively participating influences. There various groups work together to generate standard requirements (CSA standards) that demonstrate product quality, enhance market acceptability and improve quality and safety control procedures in manufacturing and construction for the Canadian marketplace. The standards generated by CSA are the cornerstone for determining a product's eligibility for certification in hazardous locations in Canada. CSA also performs product evaluation, testing and ongoing inspection to these standards and also to American and European standards through new inter-laboratory agreements.



CE



"CE" marking is a declaration from Winters' that our product conforms to a specific Directive adopted by the EEA (European Economic Area) and is a requirement for the product to be sold into any of the countries in this 18 member group. CE is an abbreviation for the "Conformite Europeene", meaning European Conformance. Unlike dangerous location approvals, CE marking is granted to products that conform to Directives which were developed using IEC and Cenelec standards. The Directives that affect transmitters are the EMC (Electromagnetic Compatibility) and LVD (Low Voltage) Directives. These state that the products must meet specific electromagnetic emission and immunity, as well as electrostatic discharge standards.



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Winters Approved Certifying Agency

NEMA

NEMA

NEMA

Certain Winters' products (i.e. pressure transmitters and pressure switches) can be classified per the National Electrical Manufacturer's Association Enclosure (NEMA) classifications. NEMA is a non-profit trade organization composed of manufacturers of electrical power apparatus. NEMA created voluntary standards for electrical enclosures. These classifications describe the environment in which the product can be used due to the protection the enclosure provides. ("Enclosure" includes electrical and mechanical connections and external adjustments.) Among others, NEMA classifies enclosures based on the effects of external icing, corrosion and rusting, or contamination from oil and coolants.

Pressure switches, transmitter and other electronic products may also be classified according to the voluntary standards set by NEMA for electrical enclosures;

Type	Seal	Indoor/Outdoor	Description
Type 1	General Purpose	Indoor	Accidental contact will not rust
Type 2	Drip-proof	Indoor	Limited amounts of falling water and dirt will not rust
Type 3	Dust-tight, rain-tight	Outdoor	Windblown dust, rain, sleet, and undamaged by external ice formation
Type 3R	Dust-tight, rain-tight	Outdoor	Same as type 3 above, plus diverts water from live parts, provision for drainage, will not rust
Type 3S	Dust-tight, rain-tight	Outdoor	Same as type 3 above, operation of external mechanism when ice laden, will not rust
Type 4	Water-tight, dust-tight	Indoor/Outdoor	Windblown dust and rain, splashing water, and hose directed water, undamaged by ice formation, will not rust
Type 4X	Water-tight, dust-tight	Indoor/Outdoor	Same as type 4 above, plus corrosion resistant, will not rust
Type 5	Dust-tight	Indoor	Dust and falling dirt, will not rust
Type 6	Water-tight/dust-tight	Indoor/Outdoor	Temporary entry of water during limited submersion (6ft for 30 Min), undamaged by formation of ice, will not rust
Type 6P	Water-tight/dust-tight	Indoor/Outdoor	Same as type 6 above plus prolonged submersion at 6 psi, will not rust
Type 7	Explosion proof/Class I Groups A, B, C, D	Indoor Hazardous	Locations: Protection against corrosive effects of liquids and gases
Type 8	Explosion proof/Class I	Indoor/Outdoor	Hazardous Locations: protection against corrosive effects of liquids and gases; contacts or connections immersed in oil
Type 9	Explosion Proof/Class II Groups E or G	Indoor Hazardous	Locations: dust-tight, hazardous dust
Type 10	Hazardous Locations	Indoor	MSHA Mine Safety and Health Adm. per 30 C.F.R., Part 18
Type 11	Oil-tight/Corrosion	Indoor	Protection from corrosive effects of gases and liquid dripping, seepage and external condensation or corrosive, oil immersion
Type 12	Oil-tight/Dust-tight	Indoor	Fibers, lint, dust and light splashing, seepage and dripping condensation or non-corrosive liquids
Type 12K	Oil-tight/Dust-tight	Indoor	Same as type 12 above, enclosure has knockouts
Type 13	Oil-tight/Dust-tight	Indoor	Dust, spraying of water, oil and corrosive coolant, oil resistant gaskets



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Ingress Protection (IP) Ratings

The IP Code indicates the degree of protection provided by enclosures for electrical equipment.

The first numeral indicates protection of persons against access to dangerous parts and protection of internal equipment against the ingress of solid foreign objects.	
X	Protection unspecified (untested)
0	No special protection provided
1	Protection of hand against accidental access to dangerous parts, and protection of equipment against objects larger than 50mm
2	Protection of fingers against access to dangerous parts, and protection of equipment against objects larger than 12mm
3	Protection against objects larger than 2.5mm (e.g. tools, wires)
4	Protection against objects larger than 1mm (e.g. line tools, wires)
5	Protection against entry of dust in sufficient quantity to interfere with satisfactory operation of equipment
6	Complete protection against entry of dust

The second numeral indicates protection of internal equipment against harmful ingress of water	
X	Protection unspecified (untested)
0	No special protection provided
1	Protection against drops of water falling vertically
2	Protection against drops of water falling vertically when the object is tilted by up to 15 degrees from its normal position (in any direction)
3	Protection against spraying water at up to 60 degrees from the vertical
4	Protection against splashing and spraying water from all practicable directions
5	Protection against a low pressure jet of water from all practicable directions
6	Protection against heavy seas or a strong jet of water from all practicable directions
6D	Protection against driving rain at angles down to horizontal
7	Protection against immersion
8	Protection against submersion (tests subject to agreement, but no less severe than numeral 7)



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CRN

CRN (Canadian Registration Number)

CRN

The Canadian Registration Number (CRN) is a number issued by each province/territory of Canada to the design of boiler, pressure vessel or fitting. Industrial instrumentation such as pressure gauges, thermometers and related accessories all fall under this jurisdiction. The CRN identifies the design has been accepted and registered for use in that province/territory.

Winters CRN Registration (Revised Oct. 22, 2002)				
PROVINCES	ONT	QUEBEC	CRN	
Product Category	CRN	CRN		
Pressure Gauges	OF6751.5	OF6751.56		
Diaphragm Seals	OF6751.5	OF6751.56		
Thermowells	OF6751.5ADD1	OF6751.56ADD1		
Mini Ball Valves	OC6751.5	OC6751.56		
Needle Valves	OC6751.5	OC6751.56		
Syphons/Snubbers	OF6751.5	OF6751.56		
PROVINCES	BC	AB	MB	SK
Product Category	CRN	CRN	CRN	CRN
Pressure Gauges	OF6751.51	OF6751.52	OF6751.56	OF6751.56
Diaphragm Seals	OF6751.51	OF6751.52	OF6751.56	OF6751.56
Thermowells	OF6751.51ADD1	OF6751.52ADD1	OF6751.56ADD1	OF6751.56ADD1
Mini Ball Valves	OC6751.51	OC6751.52	OC6751.56	OC6751.56
Needle Valves	OC6751.51	OC6751.52	OC6751.56	OC6751.56
Syphons/Snubbers	OF6751.51	OF6751.52	OF6751.56	OF6751.56
PROVINCES	NB	NS	PEI	NFLD/LAB
Product Category	CRN	CRN	CRN	CRN
Pressure Gauges	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Diaphragm Seals	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Thermowells	OF6751.57ADD1	OF6751.58ADD1	OF6751.59ADD1	OF6751.50ADD1
Mini Ball Valves	OC6751.57	OC6751.58	OC6751.59	OC6751.50
Needle Valves	OC6751.57	OC6751.58	OC6751.59	OC6751.50
Syphon/Snubbers	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Provinces	YUKON	NWT	NUNAVUT	CRN
Product Category	CRN	CRN	CRN	
Pressure Gauges	OF6751.5Y	OF6751.5T	OF6751.5N	
Diaphragm Seals	OF6751.5Y	OF6751.5T	OF6751.5N	
Thermowells	OF6751.5YADD1	OF6751.5TADD1	OF6751.5NADD1	
Mini Ball Valves	OC6751.5Y	OC6751.5T	OC6751.5N	
Needle Valves	OC6751.5Y	OC6751.5T	OC6751.5N	
Syphon/Snubbers	OF6751.5Y	OF6751.5T	OF6751.5N	

*CRN as per Mini Catalogue 2001.



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Pressure Switch - Reference

Hazardous Location Definitions	
Class 1	Locations in which flammable gases or vapours are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
Class II	Locations, which are hazardous because of the presence of combustible dust.
Class III	Locations which are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be suspended in air in quantities sufficient to produce ignitable mixtures.
Division 1	Locations in which hazardous concentrations in the air exist continuously, intermittently, or periodically under normal operating conditions.
Division 2	Locations in which hazardous materials are handled, processed, or used, but where such materials are normally within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown.
Group A	Atmospheres containing acetylene.
Group B	Atmospheres containing hydrogen, or gases or vapours of equivalent hazard, such as manufactured gas.
Group C	Atmospheres containing ethyl-ether vapours, ethylene, or cyclo-propane.
Group D	Atmospheres containing gasoline, hexane, naphtha, benzine, butane, propane, alcohol, benzol, lacquer solvent vapours, or natural gas.
Group E	Atmospheres containing metal dust, including aluminum, magnesium and their commercial alloys and other metals of similar hazardous characteristics.
Group F	Atmospheres containing carbon black, coal or coke dust.
Group G	Atmospheres containing flour, starch or grain dust.

Hazardous Location Definitions - International

The International Electrotechnical Commission (IEC) classifies hazardous locations by Zone and Group. Zone is similar to the term "Division" in that it defines the likelihood of hazard:

Zone 0	An area in which an explosive gas/air mixture is constantly present or present for long periods of time
Zone 1	An area in which an explosive gas/air mixture is likely to occur during normal operation (Similar to Division 1)
Zone 2	An area in which an explosive/air mixture is not likely to occur but if so, only for short periods of time (Similar to Division 2)



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ISO 9000

ISO 9000

ISO 9000

Winters' is an ISO 9000 Corporation. The definition of quality is the "totality of features, characteristics or services that bear on the ability to satisfy the stated or implied needs". Winters' facilities offers ISO 9001, engineering design and manufacturing, and ISO 9002 a quality model for quality assurance in production and installation. The elements of ISO 9000 consist of; Leadership and System Improvement, Quality in the Line Functions, Infrastructure or Supporting systems.



UL/ULC



Underwriters Laboratories and Underwriters Laboratories of Canada maintains a high commitment to public safety and a dedication to exceed customer expectations through continual improvement in the delivery of quality services. The organizations develop and publish standards, classifications and specifications for products having a bearing on fire, accident or property hazards. If a product carries the UL mark, it means that UL found the products met UL's safety requirements. These requirements are based primarily on UL's own published Standards for Safety.

NACE

NACE

NACE

The National Association of Corrosion Engineers recommends practices such as methods of selection, design, installation, maintenance or operation of material or system where corrosion is a factor. Some recommended practices focus on details of construction of a corrosion control system, methods of treating the surface of materials to reduce corrosion, requirements for using devices to reduce corrosion; and procedures for increasing the effectiveness safety and economic benefits of an installation or system.

OTHER APPROVALS/STANDARDS

ASME B40.1 • NATO • FCI • CAN. DEPT.
OF DEFENSE • U.S. NAVY •
U.S. DEPT. OF DEFENSE • U.S. COAST
GUARD



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