ISO9001/UL/CUL/EU

Throughout the world, there are a wide variety of regulatory codes, agency approvals, and other types of certification that may be required in order to install an automation system. These requirements really depend on your exact location and situation. For example, there may be national codes, state and local government codes, and even wide ranging requirements such as the European Union (EU) Directives. Following are some of these codes and requirements and explanations of how they may affect you as a PLC user.

ISO9001

Some companies require their suppliers to use products that are built by companies that adhere to a documented set of quality related procedures. Koyo Electronics Industries Company, Ltd., the manufacturer of most of our PLC products, is an ISO9001 certified company, as are many of our other Federation members. Copies of the ISO certificates are available on our Web site.

Underwriter's Laboratories (UL/CUL)

Underwriter's Laboratories is one of the world's premier safety testing and certification sources. Many applications require UL approval for insurance and/or other compliance purposes. There are several areas of interest, but the most applicable are UL508, The Standard for Industrial Control Equipment, and UL1604, the standard covering Hazardous Locations. For more information on the Underwriter's Laboratories, check their Web site at **www.ul.com**. There are several tables in this section that show which of our products have a UL listing. (They also indicate the CUL approval, which is required in many applications in Canada.) Please check our Web site for the most up-to-date information.

European Union (EU) Directives

This area of certification and approval is absolutely vital to anyone who wants to do business in Europe. One of the key tasks that faced the EU member countries and the European Economic Area (EEA) was the requirement to bring several similar yet distinct standards together into one common standard for all members. The primary purpose of a single standard was to make it easier to sell and transport goods between the various countries and to maintain a safe working and living environment. The Directives that resulted from this "harmonization" of standards are now legal requirements for doing business in Europe. Products that meet these Directives are required to have a CE mark to signify compliance. There are a few key questions that are always asked when the subject of CE is discussed.

Which Directives apply to me?

There are several Directives that apply to our products. Directives may be amended, or added, as required.

- **Electromagnetic Compatibility Directive (EMC)** – Provides a means to ensure that products placed on the market do not generate electromagnetic disturbances that would affect other apparatus, including radio and/or telecommunications equipment.
- **Machinery Safety Directive** – covers the safety aspects of the equipment, installation, etc. There are several areas involved, including testing standards covering both electrical noise immunity and noise generation.
- **Low Voltage Directive** – is also safety related and covers electrical equipment that has voltage ranges of 50-1,000VAC and/or 75-1,500VDC.
- **Battery Directive** – covers the production, recycling, and disposal of batteries.

Who is responsible for ensuring compliance with these Directives? Ultimately, we are all responsible for our various pieces of the puzzle. As manufacturers, we must test our products and document any test results and/or installation procedures that are necessary to comply with the Directives. As a machine builder, you are responsible for installing the products in a manner that will ensure compliance is maintained. You are also responsible for testing any combinations of products that may (or may not) comply with the Directives when used together. The end user of the products must comply with any Directives that may cover maintenance, disposal, etc. of equipment or various components. *Although we strive to provide the best assistance available, it is impossible for us to test all possible configurations of our products with respect to any specific Directive. Because of this, it is ultimately your responsibility to ensure that your machinery (as a whole) complies with these Directives and to keep up with applicable Directives and/or practices that are required for compliance.*

Which *Direct*LOGIC products carry the CE label? As of March, 2002, selected DL05, DL06, DL205, DL305, DL405 and Terminator I/O PLC systems manufactured by Koyo Electronics Industries, Host Engineering or FACTS Engineering, when properly installed and used, conform to the Electromagnetic Compatibility (EMC), Low Voltage Directive, and Machinery Directive requirements of the standards on the next page.

IEC 61000-3-2 Power Factor Correction

The IEC 61000-3-2 standard is intended to reduce the amount of disturbance a device feeds back into its power source. AUTOMATIONDIRECT power supplies all carry the CE mark. Normally, 61000-3-2 is met or does not apply. Only our PS24-150D and PS24-300D could potentially be used in a manner not compliant with the 61000-3-2 standard.

EU - European Union

- **EMC Directive Standards Relevant to PLCs**
  EN50081-1 – Generic emission standard for residential, commercial, and light industry
  EN50081-2 – Generic emission standard for industrial environment
  EN50082-1 – Generic immunity standard for residential, Commercial, and light industry
  EN50082-2 – Generic immunity standard for industrial environment
- **Low Voltage Directive Standards Applicable to PLCs**
  EN61010-1 – Safety requirements for electrical equipment for measurement, control, and laboratory use
- **Product Specific Standard for PLCs**
  EN61131-2 – Programmable controllers, equipment requirements and tests. This standard replaces the above generic standards for immunity and safety. However, the generic emissions standards must still be used in conjunction with the following standards:
  EN 61000-3-2 – Harmonics
  EN 61000-3-2 – Fluctuations. We are currently in the process of changing their testing procedures from the generic standards to the product specific standards.

We do have separate Declarations of Conformity that cover the specific products and part numbers approved. Not all of the products have been labeled for CE as of this writing, so you should check the tables on the following pages to be sure. Please also check our Web site for the most up-to-date information on CE approvals or to obtain copies of our Declarations of Conformity.

Are there any special requirements necessary when using DirectLOGIC equipment? Yes, the installation requirements to comply with the requirements of the Machinery Directive, EMC Directive and Low Voltage Directive are slightly more complex than the normal installation requirements found in the United States. First, check the Declaration for specific application conditions required.

Then, refer to the following manual:

- **DA-EU-M** – EU Installation Manual that covers special installation requirements to meet the EU Directive requirements. You should download the manual from our Web site to obtain the most up-to-date information. The manual is available for download at:
  www.support.automationdirect.com/compliance.html

Finally, check your user manual for EU information.

Are there any other sources of information? Although the EMC Directive gets the most attention, other basic Directives, such as the Machinery Directive and the Low Voltage Directive, also place restrictions on the control panel builder. Because of these additional requirements, it is recommended that the following publications be purchased and used as guidelines:

- BSI publication TH42073: February 1996 – covers the safety and electrical aspects of the Machinery Directive
- EN60204-1:1992 – General electrical requirements for machinery, including Low Voltage and EMC considerations
- IEC 1000-5-2: EMC earthing and cabling requirements
- IEC 1000-5-1: EMC general considerations

It may be possible for you to obtain this information locally. However, the official source of applicable Directives and related standards is:

The Office for Official Publications of the European Communities

L-2985 Luxembourg quickest contact is via the World Wide Web at **www.europa.eu.int**

Another source is:

Global Engineering Documents

15 Inverness Way East
Englewood, Co 80112-5776
1(800) 854-7179 (within the U.S.)
(303) 397-7956 (international)
(303) 397-2740 (fax)
www.global.ihs.com

The information contained in this section is intended as a guideline and is based on our interpretation of the various standards and requirements. Since the actual standards are issued by other parties and in some cases Governmental agencies, the requirements can change over time without advance warning or notice. Changes or additions to the standards can possibly invalidate any part of the information provided in this section.

Books

Following is a list of books that may be helpful to you:

Title: **EMC For Systems and Installations**
Authors: Tim Williams and Keith Armstrong
Publisher: Newnes
Woburn, MA

Title: **CE From A to Z**
Authors: Mette Winther Pedersen & Gert Bukkjaer
Publisher: Levison & Johnson & Johnson a/s
Denmark

Title: **EU Directive Handbook: Understanding the European Union Compliance Process and What it Means to You**
Authors: Allen R. Bailey & Melinda C. Bailey
Publisher: St. Lucie Press
Boca Raton, FL

Title: **Practical Guide to the Low Voltage Directive**
Authors: Gregg Kervill
Publisher: Newnes
Woburn, MA

Title: **C E Marking Handbook: A Practical Approach to Global Safety Certification**
Authors: David Lohbeck
Publisher: Newnes
Woburn, MA

NEC AND NEMA

The National Electrical Code (NEC)

NEC provides regulations concerning the installation and use of various types of electrical equipment.

These classifications are being "harmonized" with the IEC and European Hazardous Location Ratings. A source of information about this "harmonization" is the Instrument Society of America (ISA).

Contact the ISA at:

67 Alexander Drive
RTP, NC 27709
Phone: (919)549-8411
www.isa.org

Another resource is:
www.ul.com/hazloc/

National Electrical Manufacturers Association (NEMA)

NEMA publishes many different documents that discuss standards for industrial control equipment. Please note that these standards are undergoing "harmonization" with the IEC and European standards and may be replaced. Global Engineering Documents handles the sale of NEMA, IEC and CE documents. For more information, please contact Global Information at:

1 (800) 854-7179 (within the U.S.)
(303) 397-7956 (international)
(303) 397-2740 (fax)
15 Inverness Way East
Englewood, Co 80112-5776
www.global.ihs.com

- ICS 1, General Standards for Industrial Control and Systems
- ICS 2, Controllers, Contactors, and Overload Relays, Rated no more than 2000 Volts AC or 750 Volts DC
- ICS 3, Factory Built Assemblies
- ICS 6, Enclosures for Industrial Control Systems

National Electric Code (NEC) Article 500 Hazardous Location Classification

Class	Division	Group	
Class I Locations in which flammable gases or vapors are (or may be) present in the air in quantities great enough to produce explosive or ignitable mixtures.	**DIVISION 1:** Locations in which hazardous concentrations of flammable gases or vapors exist continuously, intermittently, or periodically under normal conditions. **-or-** Locations in which hazardous concentrations of flammable gases or vapors may exist frequently because of repair or maintenance operations or because of leakage. **-or-** Locations in which breakdown or faulty operation of equipment or processes might release hazardous concentrations of flammable gases or vapors. **DIVISION 2:** Locations in which volatile flammable liquids or flammable gases are handled, processed, or used, but are normally kept in closed containers and can only escape due to accidental rupture. **-or-** Locations in which hazardous concentrations of gases or vapors are normally prevented by mechanical ventilation and might become hazardous due to failure of the ventilating equipment. **-or-** Locations that are adjacent to Class I, Division 1 locations.	**GROUP A:** Atmospheres containing acetylene **GROUP B:** Atmospheres containing: acrolein(inhibited) butadiene ethylene oxide hydrogen gases containing more than 30% hydrogen by volume propylene oxide **GROUP C:** Atmospheres containing: allyl alcohol carbon monoxide cyclopropane diethyl ether ethylene hydrogen sulfide methyl ether n-propyl ether or gases or vapors of equivalent hazard	**GROUP D:** Atmospheres containing: acetone ammonia benzene butane butyl alcohol ethane ethyl alcohol gasoline heptanes hexanes methane (natural gas) methyl alcohol methyl ethyl ketone (MEK) naphta octanes pentanes propane styrene toluene xylenes or gases or vapors of equivalent hazard
Class II Locations in which there are explosive mixtures of air and combustible dust.	**DIVISION 1:** Locations in which explosive or ignitable amounts of combustible dust are or may be in suspension of continuously, intermittently, or periodically under normal operating conditions. **-or-** Locations where mechanical failure or abnormal operation of machinery or equipment might cause explosive or ignitable mixtures to be produced. **-or-** Locations in which combustible electrically conductive dust is present. **DIVISION 2:** Locations where combustible dust deposits exist but are not likely to be thrown into suspension in the air, but where the dust deposits may be heavy enough to interfere with safe heat dissipation from electric equipment. **-or-** Locations where combustible dust deposits may be ignited by arcs, sparks, or burning aterial from electrical equipment.	**GROUP E:** Atmospheres containing combustible: metal dusts regardless of resistivity or dusts of similarly hazardous characteristics having resistivity of less than 100,000 ohm-centimeter **GROUP F:** Atmospheres containing combustible: carbon black, charcoal, or coke dusts which have more than 8% total volatile material or- carbon black, charcoal, or coke dusts sensitized by other materials so that they present an explosion hazard, and having a resistivity greater than 100 ohm-centimeter but equal to or less than 100,000,000 ohm-centimeter **GROUP G:** Atmospheres containing dusts having resistivity of 100,000,000 ohm-centimeter	
Class III Locations in which there is the presence of easily-ignited fibers or flyings, but where the fibers or flyings are not likely to be in suspension in the air in quantities great enough to produce ignitable mixtures.	**DIVISION 1:** Locations in which easily ignitable fibers or materials producing flyings are handled, manufactured, or used. **DIVISION 2:** Locations in which easily ignitable fibers are stored or handled (except in a manufacturing process).	**(NOT GROUPED)** Manufacturers include: textile mills, clothing plants, and fiber processing plants. Easily ignitable fibers include: Cotton, rayon, sisal, hemp, and jute.	

NEMA Electrical Enclosure Environmental Protection Ratings

Type	Protection	Location	Description
1	General purpose	Indoor	Accidental contact
2	Drip-proof	Indoor	Falling non-corrosive liquids and falling dirt
3	Dust-tight, rain-tight	Outdoor	Windblown dust, water, and sleet; ice-resistant
3R	Dust-tight, rain-tight	Outdoor	Same as above, plus melting of sleet/ice will not damage external enclosure or mechanisms
4	Water-tight/dust-tight	Indoor/ outdoor	Splashing water, outdoor seepage of water, falling or hose-directed water
4X	Water-tight/dust-tight	Indoor	Same as above, plus corrosion resistant
5	Dust-tight	Indoor	Dust and falling dirt
6	Water-tight/dust-tight	Indoor/ outdoor	Temporary entry of water limited submersion, formation of ice on enclosure
6P	Water-tight/dust-tight	Indoor/ outdoor	Same as previous, plus prolonged submersion
7	Explosion proof/Class I Group D Hazardous Locations	Indoor	Hazardous chemicals and gases
9	Explosion proof/Class II Hazardous Locations	Indoor	Hazardous dust
11	Drip-proof/corrosion Resistant	Indoor	Oil immersion, corrosive effects of liquids and gases
12	Drip-tight/dust-tight	Indoor	Fibers, lint, dust, and splashing, and dripping condensation of non-corrosive liquids
13	Oil-tight/dust-tight	Indoor	Dust, spraying of water, oil, and non-corrosive coolant

UL/CUL/CSA Certification Number

UL/CUL/CSA Certification Numbers*			
Name	**UL/CUL**	**CSA**	**ISO-9000**
ADC Photo Switches**	E 130 644	-	✔
ADC Proximity Switches**	E 130 644	-	✔
ADC Limit Switches	E 189 258	-	✔
ADC Contactors	E 191 059	LR 703171	✔
ADC Manual Motor Controllers	E 195 426	-	✔
ADC Relays	E 222 847		
Fuji Motor Controls	E 44592	LR20479	✔
Cutler-Hammer Pushbuttons	E 1491	LR 353	-
Cutler-Hammer Contactors	E 1491	LR 353	-
DIN*nectors*	E 179 129	-	-
*Direct*LOGIC	E 157 382	-	✔
Fuji Timers	E 44592	-	✔
Koyo Timers	E 186 879	-	✔
Koyo Proximity Switches	E 186 879	-	✔
ADC Power Supplies	E 197 592	-	✔

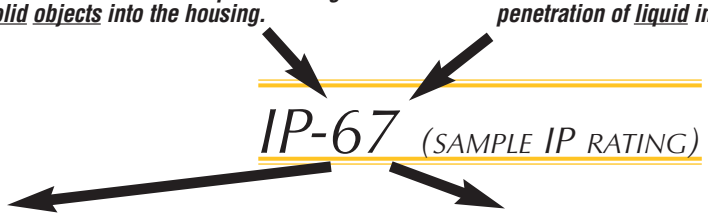
UL/CUL/CSA Certification Numbers*			
Name	**UL/CUL**	**CSA**	**ISO-9000**
DirectLOGIC PLCs and I/O	E 157 382	-	✔ (Koyo)
DL205/305 Family Class I Div II	E 200 031	-	✔ (Koyo)
*Direct*Touch Panels	E 178 572	-	✔
EZTouch Panels	E 209 355	-	-
Facts	E 139 594	-	-
Hitachi Drives	E 178 241	-	✔
GS Drives	E 198 015		
DURA*pulse* Drives	E 198 015		
Marathon Motors	E 49747	LR 37479 LR 45148	
Cirronet RF Modems	E 235 438		
Host	E 185 989	-	-
Optimation	E 182 843	-	-
*Zip*Link Cables	E 101 344	LL 80671	-
*Zip*Link Connectors	E 179 771	-	-
*For the latest information on agency approvals, please check our Web site.			

***** except for the following series, which are not UL approved at this time: PY4*, PY3*, PD1*, CR5*, CR8*, AE1-**-5*, AM1-**-5*, PMW-**-5*, PKW-**-5*, PTW-**-5*, C5*, CX*, C18***

How to Interpret IP Ratings

The first number defines the amount of protection against penetration of solid objects into the housing.

The second number defines the amount of protection against penetration of liquid into the housing.



First Number	Level of Protection
0	No protection against contact or entry of solids
1	Protection against accidental contact by hand, but not deliberate contact. Protection against large objects.
2	Protection against contact by fingers. Protection against medium-size foreign objects.
3	Protection against contact by tools, wires, etc. Protection against small foreign objects.
4	Protection against contact by small tools and wires. Protection against small foreign objects.
5	Complete protection against contact with live or moving parts. Protection against harmful deposits of dust.
6	Complete protection from live or moving parts. Protection against penetration of dust.

Second Number	Level of Protection
0	No Protection
1	Protection against drops of condensed water. Condensed water falling on housing shall have no effect.
2	Protection against drops of liquid. Drops of falling liquid shall have no effect when housing is tilted to 15° from vertical.
3	Protection against rain. No harmful effect from rain at angles less than 60° from vertical.
4	Protection against splashing from any direction.
5	Protection against water jets from any direction.
6	Protection against conditions on ships and decks. Water from heavy seas will not enter.
7	Protection against immersion in water. Water will not enter under stated conditions of pressure and length of time.
8	Protection against indefinite immersion in water under a specified pressure.

Additional information on IP ratings can be found in the 1976 IEC Publication: Classification of Degrees of Protection Provided by Enclosures or at **www.iec.ch.**
Example: What is IP-67? Complete protection of live parts Protection against the penetration of dust. Additionally, protection while immersed in water.

Agency Approvals

DL405 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
CPUs				
D4-430	✔	✔	✔	
D4-440	✔	✔	✔	
D4-440DC-1	✔	✔	✔	
D4-440DC-2	✔	✔	✔	
D4-450	✔	✔	✔	
D4-450DC-1	✔	✔	✔	
D4-450DC-2	✔	✔	✔	
D4-470-xx	✔	✔	✔	
Expansion Units and Cables				
D4-EX	✔	✔	✔	
D4-EXDC	✔	✔	✔	
D4-EXCBL-1	✔	✔	✔	
D4-EXCBL-2	✔	✔	✔	
I/O Bases				
D4-04B-1	✔	✔	✔	
D4-06B-1	✔	✔	✔	
D4-08B-1	✔	✔	✔	
DC Input Modules				
D4-08ND3S	✔	✔	✔	
D4-16ND2	✔	✔	✔	
D4-16ND2F	✔	✔	✔	
D4-32ND3-1	✔	✔	✔	
D4-32ND3-2	✔	✔	✔	
D4-64ND2	✔	✔	✔	
AC Input Modules				
D4-08NA	✔	✔	✔	
D4-16NA	✔	✔	✔	
D4-16NA-1	✔	✔	✔	
AC/DC Input Modules				
D4-16NE3	✔	✔	✔	
F4-08NE3S			✔	
AC Output Modules				
D4-08TA	✔	✔	✔	
D4-16TA	✔	✔	✔	

DL405 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
DC Output Modules				
D4-08TD1	✔	✔	✔	
D4-16TD1	✔	✔	✔	
D4-16TD2	✔	✔	✔	
D4-32TD1	✔	✔	✔	
D4-32TD1-1			✔	
D4-32TD2	✔	✔	✔	
D4-64TD1	✔	✔	✔	
Relay Output Modules				
D4-08TR	✔	✔	✔	
F4-08TRS-1	✔	✔	✔	
F4-08TRS-2	✔	✔	✔	
D4-16TR	✔	✔	✔	
Analog Modules				
D4-04AD	✔	✔	✔	
F4-04AD	✔	✔	✔	
F4-04ADS	✔	✔	✔	
F4-08AD	✔	✔	✔	
D4-02DA	✔	✔	✔	
F4-04DA	✔	✔	✔	
F4-04DAS-1	✔	✔	✔	
F4-04DAS-2	✔	✔	✔	
F4-08THM	✔	✔	✔	
F4-08THM-n	✔	✔		
F4-08RTD	✔	✔	✔	
F4-04DA-1	✔	✔	✔	
F4-04DA-2	✔	✔	✔	
F4-08DA-1	✔	✔	✔	
F4-08DA-2	✔	✔	✔	
F4-16DA-1	✔	✔	✔	
F4-16DA-2	✔	✔	✔	
Remote I/O				
D4-RM	✔	✔	✔	
D4-RS	✔	✔	✔	
D4-RSDC	✔	✔	✔	
D4-SM	✔	✔	✔	
D4-SS-88	✔	✔	✔	
D4-SS-106	✔	✔	✔	
D4-SS-16T	✔	✔	✔	
D4-SS-16N	✔	✔	✔	
F4-SDS	✔	✔	✔	
H4-ERM	✔	✔	Pend	
H4-ERM-F	✔	✔	Pend	

DL405 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
Communications and Networking				
D4-DCM	✔	✔	✔	
F4-MAS-MB	✔	✔	✔	
F4-SLV-MB	✔	✔	✔	
F4-SLV-TW	✔	✔	✔	
F4-SDN	✔	✔	✔	
H4-ECOM	✔	✔	✔	
H4-EBC	✔	✔	✔	
H4-ECOM-F	✔	✔	✔	
H4-EBC-F	✔	✔	✔	
CoProcessors™				
F4-CP128-1	✔	✔	✔	
F4-CP512	✔	✔	✔	
F4-CP512-1	✔	✔		
F4-CP128-R	✔	✔		
F4-CP128-T	✔	✔	✔	
Specialty Modules				
D4-INT	✔	✔	✔	
D4-HSC	✔	✔	✔	
F4-16PID	✔	✔	✔	
F4-8MPI	✔	✔	✔	
D4-16SIM	✔	✔	✔	
F4-4LTC	✔	✔	✔	
H4-CTRIO	✔	✔	Pend	
Programming				
D4-HPP-1	✔	✔	✔	

*For the latest information on agency approvals, check our Web site.
UL (Underwriters' Laboratories, Inc.)
CUL (Canadian Underwriters Laboratories, Inc.)
CE (EMC Directive, LV Directive)
Class 1, Div 2 (Tested by Underwriters Laboratories, Inc. file no. E200031)

AGENCY APPROVALS

DL305 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
CPUs				
D3-330	✔	✔	✔	✔
D3-330P	✔	✔	✔	✔
D3-340	✔	✔	✔	✔
D3-350	✔	✔	✔	✔
Specialty CPUs				
F3-0MUX-1	✔	✔	✔	
F3-0MUX-2	✔	✔	✔	
F3-0MUX-3	✔	✔	✔	
F3-PMUX-1	✔	✔	✔	
F3-RTU-1	✔	✔	✔	✔
Bases and Cables				
D3-05B-1	✔	✔	✔	
D3-05BDC	✔	✔	✔	
D3-08B-1	✔	✔	✔	
D3-10B-1	✔	✔	✔	
D3-10BDC	✔	✔	✔	
D3-05B-NR	✔	✔	✔	✔
D3-05BDC-NR	✔	✔	✔	✔
D3-08B-NR	✔	✔	✔	✔
D3-10B-NR	✔	✔	✔	✔
D3-10BDC-NR	✔	✔	✔	✔
DC Input Modules				
D3-08ND2	✔	✔	✔	✔
D3-16ND2-1	✔	✔	✔	✔
D3-16ND2-2	✔	✔	✔	✔
D3-16ND2F	✔	✔	✔	✔
F3-16ND3F	✔	✔	✔	
AC Input Modules				
D3-08NA-1	✔	✔	✔	✔
D3-08NA-2	✔	✔	✔	✔
D3-16NA	✔	✔	✔	✔
AC/DC Input Modules				
D3-08NE3	✔	✔	✔	✔
D3-16NE3	✔	✔	✔	✔

DL305 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
DC Output Modules				
D3-04TD1			✔	
D3-08TD1	✔	✔	✔	✔
D3-08TD2	✔	✔	✔	✔
D3-16TD1-1	✔	✔	✔	✔
D3-16TD1-2	✔	✔	✔	✔
D3-16TD2	✔	✔	✔	✔
AC Output Modules				
D3-04TAS	✔	✔	✔	✔
D3-08TA-1	✔	✔	✔	✔
D3-08TA-2	✔	✔	✔	✔
F3-08TAS			✔	
F3-08TAS-1	✔	✔		✔
F3-16TA-1			✔	
F3-16TA-2	✔	✔		✔
D3-16TA-2	✔	✔		✔
Relay Output Modules				
D3-08TR	✔	✔	✔	
F3-08TRS-1			✔	
F3-08TRS-2	✔	✔	✔	
F3-08TRS-5	✔	✔	✔	✔
D3-16TR	✔	✔	✔	
Analog Modules				
D3-04AD	✔	✔	✔	✔
F3-04ADS	✔	✔	✔	
F3-08AD	✔	✔	✔	✔
F3-08TEMP	✔	✔	✔	
F3-08THM-n	✔	✔	✔	✔
F3-16AD	✔	✔	✔	✔
D3-02DA	✔	✔	✔	✔
F3-04DA-1	✔	✔	✔	✔
F3-04DAS	✔	✔	✔	
F3-08AD-1	✔	✔		✔

DL305 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
Communications and Networking				
D3-232-DCU	✔	✔	✔	
D3-422-DCU	✔	✔	✔	
D3-DCM	✔	✔		✔
ASCII BASIC Modules				
F3-AB128	✔	✔	✔	✔
F3-AB128-R	✔	✔	✔	
F3-AB128-T	✔	✔	✔	✔
Specialty Modules				
D3-08SIM	✔	✔	✔	
D3-HSC	✔	✔	✔	✔
D3-PWU	✔	✔	✔	
D3-TCSU			✔	
Programming				
D3-HP	✔	✔	✔	
D3-HPP	✔	✔	✔	

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Agency Approvals

DL205 Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
CPUs				
D2-230	✔	✔	✔	✔
D2-240	✔	✔	✔	✔
D2-250	✔	✔	✔	✔
D2-250-1	✔	✔	✔	✔
D2-260	✔	✔	✔	✔
H2-WPLC1, 2	✔	✔	✔	✔
I/O Bases				
D2-03BDC-1	✔	✔	✔	✔
D2-03BDC1-1	✔	✔	✔	✔
D2-03B-1	✔	✔	✔	✔
D2-03BDC-2	✔	✔	✔	✔
D2-04B-1	✔	✔	✔	✔
D2-04BDC-1	✔	✔	✔	✔
D2-04BDC1-1	✔	✔	✔	✔
D2-04DBC-2	✔	✔	✔	✔
D2-06B-1	✔	✔	✔	✔
D2-06BDC-1	✔	✔	✔	✔
D2-06BDC1-1	✔	✔	✔	✔
D2-06BDC-2	✔	✔	✔	✔
D2-06BDC2-1	✔	✔	✔	✔
D2-09B-1	✔	✔	✔	✔
D2-09BDC-1	✔	✔	✔	✔
D2-09BDC1-1	✔	✔	✔	✔
D2-09BDC-2	✔	✔	✔	✔
D2-09BDC2-1	✔	✔	✔	✔
DC Input Modules				
D2-08ND3	✔	✔	✔	✔
D2-16ND3-2	✔	✔	✔	✔
D2-32ND3-2	✔	✔	✔	✔
D2-32ND3	✔	✔	✔	✔
DC Output Modules				
D2-04TD1	✔	✔	✔	✔
D2-08TD1	✔	✔	✔	✔
D2-08TD2	✔	✔	✔	✔
D2-16TD1-1	✔	✔	✔	✔
D2-16TD2-2	✔	✔	✔	✔
D2-32TD1	✔	✔	✔	✔
D2-32TD2	✔	✔	✔	✔

DL205 Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
AC Input Modules				
D2-08NA-1	✔	✔	✔	✔
D2-16NA	✔	✔	✔	✔
D2-08NA-2	✔	✔	✔	✔
AC Output Modules				
D2-08TA	✔	✔	✔	✔
D2-12TA	✔	✔	✔	✔
F2-08TA	✔	✔	Pend	✔
Relay Output Modules				
D2-04TRS	✔	✔	✔	✔
D2-08TR	✔	✔	✔	✔
D2-08TRS	✔	✔	✔	✔
D2-12TR	✔	✔	✔	✔
F2-08TRS	✔	✔	✔	
F2-08TR	✔	✔	✔	
Analog Modules				
F2-04AD-1	✔	✔	✔	✔
F2-04AD-2	✔	✔	✔	✔
F2-02DA-1	✔	✔	✔	✔
F2-02DA-2	✔	✔	✔	✔
F2-02DA-1L	✔	✔	✔	✔
F2-02DL-2L	✔	✔	✔	✔
F2-02DAS-1	✔	✔	✔	✔
F2-02DAS-2	✔	✔	Pend	✔
F2-4AD2DA	✔	✔	✔	✔
F2-08DA-1	✔	✔	✔	✔
F2-08AD-1	✔	✔	✔	✔
F2-08AD-2	✔	✔	✔	✔
F2-08DA-2	✔	✔	✔	✔
F2-04AD-1L	✔	✔	✔	✔
F2-04AD-2L	✔	✔	✔	✔
F2-04RTD	✔	✔	✔	✔
F2-04THM	✔	✔	✔	✔

DL205 Agency Approval*	UL	CUL	CE	Class 1 Div 2 Zone 2
Remote I/O				
D2-RMSM	✔	✔	✔	✔
D2-RSSS	✔	✔	✔	✔
F2-SDS-1	✔	✔	✔	✔
F2-DEVNETS	✔	✔	✔	✔
D2-CM	✔	✔	✔	✔
D2-EM	✔	✔	✔	✔
H2-ERM	✔	✔	✔	✔
H2-ERM-F	✔	✔		✔
Combination Modules				
D2-08CDR	✔	✔	✔	✔
Communications and Networking				
D2-DCM	✔	✔	✔	✔
H2-ECOM	✔	✔	✔	✔
H2-EBC	✔	✔	✔	✔
H2-ECOM-F	✔	✔		✔
H2-EBC-F	✔	✔		✔
H2-SERIO	✔	✔	✔	✔
F2-DEVNETS-1	✔	✔	✔	✔
H2-PBC	✔	✔	✔	✔
Specialty Modules				
D2-CTRINT	✔	✔	✔	✔
F2-CP128	✔	✔	✔	✔
F2-08SIM	✔	✔	✔	
H2-CTRIO	✔	✔	✔	✔
Programming				
D2-HPP	✔	✔	✔	✔

Control Accessories Agency Approvals*	UL	CUL	CE	Class 1 Div 2
FA-UNICON	✔	✔	✔	
F2-UNICON	✔	✔	Pend	
FA-ISONET	✔	✔		
FA-REC3	✔	✔		
HA-TADP	✔	✔		
HA-FTADP	✔	✔		
FA-24PS-xx	✔	✔		✔
FA-4PWM				
FA-ISOCON	✔	✔	Pend	✔

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AGENCY APPROVALS

DL105 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
Micro PLCs				
F1-130AA	✔	✔		
F1-130AD	✔	✔		
F1-130AR	✔	✔		
F1-130DA	✔	✔		
F1-130DD	✔	✔		
F1-130DR	✔	✔		
F1-130DD-D	✔	✔		
F1-130DR-D	✔	✔		
F1-DVNET-AR	✔	✔		
F1-DVNET-DD	✔	✔		
F1-DVNET-DR	✔	✔		

DL05 Agency Approvals*	UL	CUL	CE	Class 1 Div 2
PLCs				
D0-05AA	✔	✔	✔	
D0-05AD	✔	✔	✔	
D0-05AR	✔	✔	✔	
D0-05DA	✔	✔	✔	
D0-05DD	✔	✔	✔	
D0-05DR	✔	✔	✔	
D0-05DD-D	✔	✔	✔	
D0-05DR-D	✔	✔	✔	
05-Only Option Module				
D0-01MC	✔	✔	✔	

Operator Panel Agency Approvals*	UL	CUL	CE	Class 1 Div 2
DirectLogic				
DV1000	✔	✔	✔	
DirectTouch				
DP-M320, 321	✔	✔	✔	
DP-C320, 321	✔	✔	✔	
Optimate				
OP-406	✔	✔	✔	Special order
OP-413	✔	✔	✔	
OP-414	✔	✔	✔	
OP-420	✔	✔	✔	
OP-440	✔	✔	✔	
OP-609	✔	✔	✔	
OP-613	✔	✔	✔	
OP-620	✔	✔	✔	
OP-640	✔	✔	✔	
OP-1124	✔	✔	✔	
OP-1224	✔	✔	✔	
OP-1212	✔	✔	✔	
OP-1312	✔	✔	✔	
OP-1500	✔	✔	✔	
OP-1510	✔	✔	✔	
OP-9001	✔	✔	✔	
EZTouch/EZText				
EZ-S6M-R	✔	✔	✔	
EZ-S6M-F	✔	✔	✔	
EZ-S6M-FH	✔	✔	✔	
EZ-S6M-FS	✔	✔	✔	
EZ-S6M-FSH	✔	✔	✔	
EZ-S6C-FH	✔	✔	✔	
EZ-S6C-FS	✔	✔	✔	
EZ-S6C-FSH	✔	✔	✔	
EZ-S6C-K	✔	✔	✔	
EZ-S6C-F	✔	✔	✔	
EZ-S8C-F	✔	✔	✔	
EZ-S8C-FH	✔	✔	✔	
EZ-T10C-F	✔	✔	✔	
EZ-T10C-FH	✔	✔	✔	
EZ-220	✔	✔	✔	
EZ-220L	✔	✔	✔	
EZ-420	✔	✔	✔	
EZ-220P	✔	✔	✔	
EZ-SP	✔	✔	✔	

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DL06 Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
PLCs				
D0-06AA	✔	✔	✔	✔
D0-06AR	✔	✔	✔	✔
D0-06DA	✔	✔	✔	✔
D0-06DD1	✔	✔	✔	✔
D0-06DD2	✔	✔	✔	✔
D0-06DR	✔	✔	✔	✔
D0-06DD1-D	✔	✔	✔	✔
D0-06DD2-D	Pending	Pending	✔	Pending
D0-06DR-D	✔	✔	Pending	✔
DL06-Only Module				
D0-06LCD	✔	✔	✔	✔

DL05/DL06 Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
DL05/DL06 Discrete Option Modules				
D0-07CDR	✔	✔	✔	✔
D0-08CDD1	✔	✔	✔	✔
D0-08TR	✔	✔	✔	✔
D0-10ND3	✔	✔	✔	✔
D0-10ND3F	Pending	Pending	Pending	Pending
D0-10TD1	✔	✔	✔	✔
D0-10TD2	✔	✔	✔	✔
D0-16ND3	✔	✔	✔	✔
D0-16TD1	✔	✔	✔	✔
D0-16TD2	✔	✔	✔	✔
F0-04TRS	Pending	Pending	Pending	Pending
F0-08NA-1	Pending	Pending	Pending	Pending
DL05/DL06 Analog Option Modules				
F0-04AD-1	✔	✔	✔	✔
F0-2AD2DA-2	✔	✔	Pending	✔
F0-4AD2DA-1	✔	✔	✔	✔
F0-4AD2DA-2	✔	✔	Pending	✔
F0-04AD-2	✔	✔	Pending	✔
F0-04THM	✔	✔	Pending	✔
F0-04RTD	✔	✔	Pending	✔
DL05/DL06 Communications Modules				
D0-DEVNETS	Pending	Pending	Pending	Pending
H0-ECOM	✔	✔	✔	✔
H0-PSCM	✔	✔	✔	✔
DL05/DL06 Specialty Modules				
H0-CTRIO	✔	✔	✔	✔

Agency Approvals

Terminator I/O Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
Discrete Output Modules				
T1K-08TD1	✔	✔	✔	✔
T1K-16TD1	✔	✔	✔	✔
T1K-16TD2	✔	✔	✔	✔
T1K-16TD2-1	✔	✔	✔	✔
T1K-08TA	✔	✔	✔	✔
T1K-08TAS	✔	✔	✔	✔
T1K-16TA	✔	✔	✔	✔
T1K-16TR	✔	✔	✔	✔
T1K-08TR	✔	✔	✔	✔
T1K-08TRS	✔	✔	✔	✔
T1K-08TD2-1	✔	✔	✔	✔
Analog Modules				
T1F-08AD-1	✔	✔	✔	✔
T1F-08AD-2	✔	✔	✔	✔
T1F-08DA-1	✔	✔	✔	✔
T1F-08DA-2	✔	✔	✔	✔
T1F-16AD-1	✔	✔	✔	✔
T1F-16AD-2	✔	✔	✔	✔
T1F-16DA-1	✔	✔	✔	✔
T1F-16DA-2	✔	✔	✔	✔
T1F-14THM	✔	✔	✔	✔
T1F-16RTD	✔	✔	✔	✔
Combination Analog Modules				
T1F-08AD4DA-1	✔	✔	✔	✔
T1F-08AD4DA-2	✔	✔	✔	✔
Specialty Modules				
T1H-CTRIO	✔	✔	Pend	✔

Terminator I/O Agency Approvals*	UL	CUL	CE	Class 1 Div 2 Zone 2
Power Supplies and Bases				
T1K-01AC	✔	✔	✔	✔
T1K-01DC	✔	✔	✔	✔
T1K-08B	✔	✔	✔	✔
T1K-16B	✔	✔	✔	✔
T1K-08B1	✔	✔	✔	✔
T1K-16B1	✔	✔	✔	✔
Network Interface Modules				
T1H-EBC	✔	✔	✔	✔
T1H-PBC	✔	✔	✔	✔
T1K-DEVNETS	✔	✔	✔	✔
T1K-MODBUS	✔	✔	✔	✔
T1K-RSSS	✔	✔	✔	✔
Discrete Input Modules				
T1K-08ND3	✔	✔	✔	✔
T1K-16ND3	✔	✔	✔	✔
T1K-08NA-1	✔	✔	✔	✔
T1K-16NA-1	✔	✔	✔	✔

Signal Conditioner Agency Approvals*	UL	cUL	CE	Class 1 Div 2
FC-33	✔	✔		✔
FC-11	✔	✔		✔
FC-T1	✔	✔		✔
FC-R1	✔	✔		✔

Hitachi Agency Approvals*	UL	CUL	CE	Class 1 Div 2
L100 series	✔	✔	✔	
SJ100 series	✔	✔	✔	
SJ300 series	✔	✔	✔	

AutomationDirect/Centsable Agency Approvals*	UL	CUL/CSA	CE	Class 1 Div 2
All photo switches**	✔	✔	✔	
All proximity switches**	✔	✔	✔	
All limit switches	✔	✔	✔	
All contactors	✔	✔	✔	
All power supplies	✔	✔	✔	✔***
All modems/ethernet switches	✔	✔	✔	✔
All drives	✔	✔	✔	
All timers/counters	✔	✔	✔	

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** Except for the following series, which are not UL approved at this time: PY4*, PY3*, PD1*, CR5*, CR8*, PMW-**-5*, PKW-**-5*, PTW-**-5*, C5*, CX*, C18*

*** Only these power supplies are UL Class 1, Div 2 approved: PS24-075D, PS24-150D, PS24-300D

Cutler-Hammer Agency Approvals*	UL	CSA	CE	Class 1 Div 2
All contactors	✔	✔	✔	
All pushbuttons	✔	✔	✔	

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