



Certificate of Compliance

Certificate: 80047687

Master Contract: 158887

Project: 80078331

Date Issued: November 17, 2021

Issued to: Phoenix Contact GmbH & Co. KG
Flachsmarktstraße 8,
32825 Blomberg,
Germany

Attention: Stephen Klinger

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:

B J Allen

PRODUCTS

CLASS 2258 02 – PROCESS CONTROL EQUIPMENT – For Hazardous Locations

CLASS 2258 82 – PROCESS CONTROL EQUIPMENT – For Hazardous Locations

Class I, Division 2, Groups A, B, C, D T4

Ex ec IIC T4 Gc

Class I, Zone 2, AEx ec IIC T4 Gc

VIP I/O-Marshalling platform IOA modules

IOA PR-DAI/DAO/F/DS/0.25A/EX

IOA PR-DAI/DAO/F/DS/2A/EX

IOA LM-DI/R/RUSIO/EX

IOA FEED-THRU-DO/NI/EX

IOA DAC-4DI/AI/EX

RATING

IOA PR-DAI/DAO/F/DS/...A/EX



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‘Ex ec IIC T4 Gc’, ‘Class I, Zone 2, AEx ec IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’,
-40 °C ≤ Ta ≤ +75 °C

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	30 V 2.0 A (1048208) / 0.25A (1188706)
Pin 5 (CHn+) / Pin 6 (CHn-)	30 V Max 1.0 A Max
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	nA/nB voltage at CHn+/CHn-, Max. load current 1A
Pin 19 (nC) / Pin 22(nD)	nC/nD voltage at P1+/P1-, Max. load current 2.0 A (1048208) / 0.25 A (1188706)

IOA LM-DI/R/RUSIO/EX

‘Ex ec IIC T4 Gc’, ‘Class I, Zone 2, AEx ec IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’,
-40 °C ≤ Ta ≤ +75 °C

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No Connection
Pin 5 (CHn+) / Pin 6 (CHn-)	30 V Max 6 mA Max 6 mA Max is achieved only if field terminals are shorted together.
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	nA/nB voltage at CHn+/CHn-, Max. load current 4 mA.
Pin 19 (nC) / Pin 22(nD)	nC/nD No Connection

IOA FEED-THRU-DO/NI/EX

‘Ex ec IIC T4 Gc’, ‘Class I, Zone 2, AEx ec IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’,
-40 °C ≤ Ta ≤ +70 °C

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No Connection
Pin 5 (CHn+) / Pin 6 (CHn-)	26.4 V Max 88 mA Max 88 mA Max is achieved using option #2, if field terminals are shorted together.
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	Option #1
Pin 19 (nC) / Pin 22(nD)	nA/nB voltage at CHn+/CHn-, Max. load current 66 mA. 66 mA Max is achieved only if field terminals are shorted together. Option #2 nC/nD voltage at CHn+/CHn-, Max. load current 88 mA. 88 mA Max is achieved only if field terminals are shorted together.



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IOA DAC-4DI/AI/EX

‘Ex ec IIC T4 Gc’, ‘Class I, Zone 2, AEx ec IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’,
-40 °C ≤ Ta ≤ +75 °C

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No Connection
Pin 5 (CHn+) / Pin 6 (CHn-)	30 V Max 19 mA +/- 0.25 mA
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	nA/nB/nC/nD 2.5 V nA with respect to CHn- = 1 mA 1 mA is achieved with a max load of 350 Ohms. nB with respect to CHn- = 2 mA 2 mA is achieved with a max load of 350 Ohms. nC with respect to CHn- = 4 mA 4 mA is achieved with a max load of 350 Ohms. nC with respect to CHn- = 8 mA 8 mA is achieved with a max load of 350 Ohms.
Pin 19 (nC) / Pin 22(nD)	No Connection

Class I, Division 2, Groups A, B, C, D T4

Ex ic IIC T4 Gc

Ex ec [ic] IIC T4 Gc

Ex ec [ic IIIC Dc] IIC T4 Gc

Class I, Zone 2, AEx ic IIC T4 Gc

Class I, Zone 2, AEx ec [ic] IIC T4 Gc

Class I, Zone 2, AEx ec [ic IIIC Dc] IIC T4 Gc

VIP I/O-Marshalling platform IOA modules

IOA PR-DAI/DAO/F/DS/0.25A/EX

IOA PR-DAI/DAO/F/DS/2A/EX

IOA LM-DI/R/RUSIO/EX

IOA FEED-THRU-DO/NI/EX

IOA DAC-4DI/AI/EX

RATING

IOA PR-DAI/DAO/F/DS/...A/EX

Associated Apparatus providing Non-incendive Field Wiring or “Ex ic” Intrinsically Safe circuits for Connection to Class I, II, III, Division 2, Groups A,B,C,D,F,G when installed per drawing 4061B.

‘Ex ic IIC T4 Gc’, ‘Class I, Zone 2, AEx ic IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’, -40 °C ≤ Ta ≤ +75 °C



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Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No connections
Pin 5 (CHn+) / Pin 6 (CHn-)	Ui/Vmax = 30 V Ii/Imax = 1 A Li = 0 Ci = 0
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	nA/nB Uo/Voc = voltage at CHn+/CHn- Io/Isc = current at CHn+/CHn- Li = 0 Ci = 0
Pin 19 (nC) / Pin 22(nD)	No Connection permitted.

IOA LM-DI/R/RUSIO/EX

Associated Apparatus providing Non-incendive Field Wiring or “Ex ic” Intrinsically Safe circuits for Connection to Class I, II, III, Division 2, Groups A,B,C,D,F,G when installed per drawing 4060B.

‘Ex ic IIC T4 Gc’, ‘Class I, Zone 2, AEx ic IIC T4 Gc’ and ‘Class I, Division 2, Group ABCD, T4’, $-40\text{ }^{\circ}\text{C} \leq T_a \leq +75\text{ }^{\circ}\text{C}$

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No connections
Pin 5 (CHn+) / Pin 6 (CHn-)	Ui/Vmax = 30 V Ii/Imax = 6 mA 6 mA Max is achieved only if field terminals are shorted together. Li = 0 Ci = 0
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	nA/nB Uo/Voc = voltage at CHn+/CHn- Io/Isc = 4 mA 4 mA Max is achieved only if field terminals are shorted together. Li = 0 Ci = 0
Pin 19 (nC) / Pin 22(nD)	No connection

IOA FEED-THRU-DO/NI/EX

Associated Apparatus providing Non-incendive Field Wiring or “Ex ic” Intrinsically Safe circuits for Connection to Class I, II, III, Division 2, Groups A,B,C,D,F,G when installed per drawing 4060A.

‘Ex ec [ic] IIC T4 Gc’, ‘Class I, Zone 2, AEx ec [ic] IIC T4 Gc’, ‘Ex ec [ic IIIC Dc] IIC T4 Gc’, ‘Class I Zone 2 AEx ec [ic IIIC Dc] IIC T4 Gc’, and ‘Class I, Division 2, Group ABCD, T4’ with ‘Connection to Class I, II, III, Division 2, Group ABCDEFG’ $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$



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Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No connections
Pin 5 (CHn+) / Pin 6 (CHn-)	Um = 26.4 Vdc Vrated = 26.4 V Irated = 88 mA 88 mA Max is achieved using option #2, if field terminals are shorted together. Prated = 2.32 W
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB)	Option #1 nA/nB Uo/Voc = voltage at CHn+/CHn-, Io/Isc = 66.8 mA Po = 588 mW Co/Ca = 0.25 uF (IIC) = 1.58 uF (IIB) = 6.3 uF (IIA) = 1.58 uF (IIIA, IIIB, IIIC) Lo/La = 15.4 mH (IIC) = 61.9 mH (IIB) = 123 mH (IIA) = 61.9 mH (IIIA, IIIB, IIIC)
Pin 19 (nC) / Pin 22(nD)	Option #2 nC/nD Uo/Voc = voltage at CHn+/CHn-, Io/Isc = 89.4 mA Po = 680 mW Co/Ca = 0.25 uF (IIC) = 1.58 uF (IIB) = 6.3 uF (IIA) = 1.58 uF (IIIA, IIIB, IIIC) Lo/La = 8.7 mH (IIC) = 34.9 mH (IIB) = 69.7 mH (IIA) = 34.9 mH (IIIA, IIIB, IIIC)

IOA DAC-4DI/AI/EX

Associated Apparatus providing Non-incendive Field Wiring or “Ex ic” Intrinsically Safe circuits for Connection to Class I, II, III, Division 2, Groups A,B,C,D,F,G when installed per drawing 4062A.



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‘Ex ec [ic] IIC T4 Gc’, ‘Class I, Zone 2, AEx ec [ic] IIC T4 Gc’, and ‘Class I, Division 2, Group ABCD, T4’ with ‘Connection to Class I, II, III, Division 2, Group A-D’ $-40\text{ }^{\circ}\text{C} \leq T_a \leq +75\text{ }^{\circ}\text{C}$

Connector Pin	Ratings
Pin 2 (Com)	N/A
Pin 3 (P1-) / Pin 4 (P1+)	No connections
Pin 5 (CHn+) / Pin 6 (CHn-)	Um = 30 V Vrated = 30 V Irated = 19 mA Prated = 570 mW
Pin 10 (P2-) / Pin 11 (P2+)	No Connection
Pin 15 (nA) / Pin 18 (nB) Pin 19 (nC) / Pin 22(nD)	nA/nB/nC/nD Uo/Voc = 2.5125 V Io/Isc = 19.55 mA Po = 49 mW Co/Ca = 999 uF Lo/La = 209 mH

Conditions of Acceptability:

Ordinary Location conditions for all the modules.

1. These modules require an overall enclosure for protection against electric shock and for the containment of fire in the end use product.
2. These modules are certified only for use in complete assemblies where the suitability of the combination is to be determined in the end application.
3. Equipment is not to be used with flammable liquids.
4. Equipment has only been tested for electrical safety. No evaluation of functional safety and performance characteristics has been conducted.
5. Equipment is only to be installed by manufacturer trained personnel.

IOA PR-DAI/DAO/F/DS/...A/EX

- i. The equipment shall be fitted to, and used with, a suitably certified Phoenix Contact VIPER Base Module that will provide the required external connection facilities.
- ii. Provision shall be made externally to prevent the rated input from being exceeded by transient disturbances of more than 140% of the rated voltage value. See electrical ratings in this document.
- iii. The equipment must be installed in a suitably certified, tool-secured enclosure providing a minimum ingress protection of IP 54 in accordance with CSA C22.2 No. 60079-0/ UL 60079-0. The overall equipment (with its enclosure) shall only be used in an area of pollution degree 2 or better, as defined in IEC 60664-1(equivalent). Alternatively, the additional enclosure must provide a pollution degree of 2 or better, as defined in IEC 60664-1(equivalent), on the inside.
- iv. The enclosure shall be provided with the following warning ‘WARNING – DO NOT REMOVE OR REPLACE FUSES WHEN ENERGIZED’
- v. Installer must ensure that the ambient temperature of the product is maintained within the range of $-40\text{ }^{\circ}\text{C} < T_{amb} < +75\text{ }^{\circ}\text{C}$.



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IOA LM-DI/R/RUSIO/EX

- i. The equipment shall be fitted to, and used with, a suitably certified Phoenix Contact VIPER Base Module that will provide the required external connection facilities.
- ii. Provision shall be made externally to prevent the rated input from being exceeded by transient disturbances of more than 140% of the rated voltage value. See electrical ratings in this document.
- iii. The equipment must be installed in a suitably certified, tool-secured enclosure providing a minimum ingress protection of IP 54 in accordance with CSA C22.2 No. 60079-0/ UL 60079-0. The overall equipment (with its enclosure) shall only be used in an area of pollution degree 2 or better, as defined in IEC 60664-1(equivalent). Alternatively, the additional enclosure must provide a pollution degree of 2 or better, as defined in IEC 60664-1(equivalent), on the inside.
- iv. Installer must ensure that the ambient temperature of the product is maintained within the range of $-40\text{ }^{\circ}\text{C}$ $< T_{amb} < +75\text{ }^{\circ}\text{C}$.

IOA FEED-THRU-DO/NI/EX

- i. The equipment shall be fitted to, and used with, a suitably certified Phoenix Contact VIPER Base Module that will provide the required external connection facilities.
- ii. Provision shall be made externally to prevent the rated input from being exceeded by transient disturbances of more than 140% of the rated voltage value. See electrical ratings in this document.
- iii. When the equipment is connected to intrinsically safe circuits, provision shall be made external to the equipment that ensures that the circuits are limited to overvoltage category II as defined in IEC 60664-1.
- iv. The equipment must be installed in a suitably certified, tool-secured enclosure providing a minimum ingress protection of IP 54 in accordance with CSA C22.2 No. 60079-0/ UL 60079-0. The overall equipment (with its enclosure) shall only be used in an area of pollution degree 2 or better, as defined in IEC 60664-1(equivalent). Alternatively, the additional enclosure must provide a pollution degree of 2 or better, as defined in IEC 60664-1(equivalent), on the inside.
- v. Installer must ensure that the ambient temperature of the product is maintained within the range of $-40\text{ }^{\circ}\text{C}$ $< T_{amb} < +70\text{ }^{\circ}\text{C}$.

IOA DAC-4DI/AI/EX

- i. The equipment shall be fitted to, and used with, a suitably certified Phoenix Contact VIPER Base Module that will provide the required external connection facilities.
- ii. Provision shall be made externally to prevent the rated input from being exceeded by transient disturbances of more than 140% of the rated voltage value. See electrical ratings in this document.
- iii. When the equipment is connected to intrinsically safe circuits, provision shall be made external to the equipment that ensures that the circuits are limited to overvoltage category II as defined in IEC 60664-1.
- iv. The equipment must be installed in a suitably certified, tool-secured enclosure providing a minimum ingress protection of IP 54 in accordance with CSA C22.2 No. 60079-0/ UL 60079-0. The overall equipment (with its enclosure) shall only be used in an area of pollution degree 2 or better, as defined in IEC 60664-1(equivalent). Alternatively, the additional enclosure must provide a pollution degree of 2 or better, as defined in IEC 60664-1(equivalent), on the inside.
- v. Installer must ensure that the ambient temperature of the product is maintained within the range of $-40\text{ }^{\circ}\text{C}$ $< T_{amb} < +75\text{ }^{\circ}\text{C}$.



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APPLICABLE REQUIREMENTS

CSA C22.2 No. 213-17 3 rd Edition	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations - Third Edition; Update No. 1: August 2018; Update No. 2: August 2019
CAN/CSA-C22.2 No. 60079-0:19 4 th Edition	Explosive atmospheres - Part 0: Equipment - General requirements - Fourth Edition
CAN/CSA-C22.2 No. 60079-7:16 2 nd Edition	Explosive atmospheres - Part 7: Equipment protection by increased safety "e" - Second Edition
CAN/CSA-C22.2 No. 60079-11:14 2 nd Edition	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" - Second Edition
CAN/CSA C22.2 No. 61010-1-12, UPD1: 2015, UPD2: 2016, AMD1: 2018	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements - Third Edition; Update No. 1: July 2015; Update No. 2: April 2016
UL121201 9 th Edition	UL Standard for Safety Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations - Ninth Edition; Reprint with Revisions Through and Including August 26, 2019
UL 60079-0 7 th Edition	UL Standard for Safety Explosive atmospheres – Part 0: Equipment – General requirements - Seventh Edition; Reprint with Revisions Through and Including APRIL 15, 2020
UL 60079-7 5 th Edition	UL Standard for Safety Explosive Atmospheres – Part 7: Equipment protection by increased safety "e" - Fifth Edition; Reprint with Revisions Through and Including April 21, 2017
UL 60079-11 6 th Edition	UL Standard for Safety Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i" - Sixth Edition; Reprint with Revisions Through and Including September 14, 2018
UL 61010-1, 3rd edition (2012), AMD1: 2018	UL Standard for Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements - Third Edition; Including Revisions through November 21, 2018



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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.

- Manufacturer's name: " Phoenix Contact GmbH & Co. KG", or CSA Master Contract Number "158887", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model designation: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format, or serial number, traceable to year and month of manufacture.
- The CSA Mark, as shown on the Certificate of Conformity.
- The designation "CSA 21CA80047687X"
- Hazardous Location designation: As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
- Method of Protection markings (Ex -- markings):
- Temperature code: As specified in the PRODUCTS section, above.
- The manufacturing location is identified if the equipment can be produced in more than one facility.
- This is a reference to a user instructions document known as a 'pack slip' that includes a Control Drawing.

Ordinary Location requirements

Mark	Symbol	Reference	Title	Mark	Symbol	Reference	Title
✓		IEC 60417-5031	Direct current	✓		ISO 7000-0434A	Caution

Nameplate adhesive label material approval information:

Not applicable: the marking is engraved onto the plastic enclosure, which is itself contained within an outer enclosure.