

UK and European Hazardous Location Approval

The following output modules are UK and European Zone 2 approved: 1794-0B8EPXT, 1794-1B16XT, 1794-0B16PXT, and 1794-1B10X0B6XT.

The following applies to products marked II 3 G:

- Are Equipment Group II, Equipment Category 3, and comply with the Essential Health and Safety Requirements relating to the design and construction of such equipment given in Schedule 1 of UKEX and Annex II of EU Directive 2014/34/EU. See the UKEx and EU Declaration of Conformity at rok.auto/certifications for details.
- The type of protection is Ex ec IIC T4 Gc according to EN IEC 60079-0:2018, EXPLOSIVE ATMOSPHERES - PART 0: EQUIPMENT - GENERAL REQUIREMENTS, Issue Date 07/2018 and EN IEC 60079-7:2015+A1:2018, Explosive atmospheres. Equipment protection by increased safety "e".
- Comply to Standard EN IEC 60079-0:2018, EXPLOSIVE ATMOSPHERES - PART 0: EQUIPMENT - GENERAL REQUIREMENTS, Issue Date 07/2018, EN IEC 60079-7:2015+A1:2018 Explosive atmospheres. Equipment protection by increased safety "e", reference certificate number DEMKO 14 ATEX 1342501X and UL22UKEX2378X.
- Are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air are unlikely to occur, or are likely to occur only infrequently and for short periods. Such locations correspond to Zone 2 classification according to UKEX regulation 2016 No. 1107 and ATEX directive 2014/34/EU.



IEC Hazardous Location Approval

The following applies to products marked with IECEx certification:

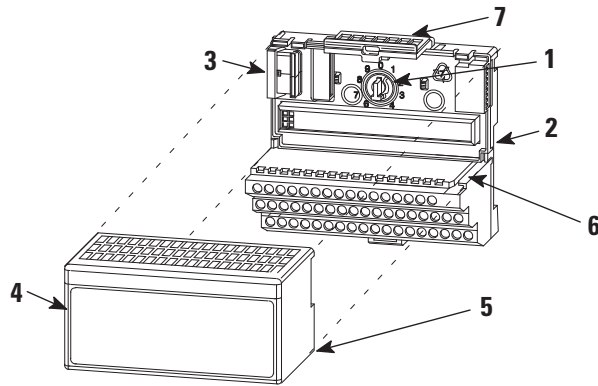
- Are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air are unlikely to occur, or are likely to occur only infrequently and for short periods. Such locations correspond to Zone 2 classification to IEC 60079-0.
- The type of protection is Ex ec IIC T4 Gc according to IEC 60079-0 and IEC 60079-7.
- Comply to Standards IEC 60079-0, Explosive atmospheres Part 0: Equipment - General requirements, Edition 7, Revision Date 2017, IEC 60079-7, 5.1 Edition revision date 2017, Explosive atmospheres - Part 7: Equipment protection by increased safety "e", reference IECEx certificate number IECEx UL 14.0066X.

North American Hazardous Location Approval

The following output modules are North American Hazardous Location approved: 1794-0B8EPXT, 1794-1B16XT, 1794-0B16PXT, and 1794-1B10X0B6XT.

The following information applies when operating this equipment in hazardous locations.	Informations sur l'utilisation de cet équipement en environnements dangereux.
<p>Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</p>	<p>Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autori</p>
<div style="display: flex; align-items: center;">  <div> <p>WARNING: Explosion Hazard -</p> <ul style="list-style-type: none"> • Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous. • Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product. • Substitution of components may impair suitability for Class I, Division 2. • If this product contains batteries, they must only be changed in an area known to be nonhazardous. </div> </div>	<div style="display: flex; align-items: center;">  <div> <p>AVERTISSEMENT: Risque d'Explosion -</p> <ul style="list-style-type: none"> • Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement. • Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit. • La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2. • S'assurer que l'environnement est classé non dangereux avant de changer les piles. </div> </div>

Install Your Digital DC Input/Output Module



	Description		Description
1	Keyswitch	5	Alignment bar
2	Terminal base	6	Groove
3	Flexbus connector	7	Latching mechanism
4	Module		

The FLEX I/O-XT™ Digital DC Input/Output module mounts on a 1794 terminal base.



ATTENTION: During mounting of all devices, be sure that all debris (for example, metal chips and wire strands) is kept from falling into the module. Debris that falls into the module could cause damage on power up.

1. Rotate the keyswitch **(1)** on the terminal base **(2)** clockwise to position 2 as required for this type of module.
2. Make certain the Flexbus connector **(3)** is pushed all the way to the left to connect with the neighboring terminal base/adaptor. **You cannot install the module unless the connector is fully extended.**
3. Make sure the pins on the bottom of the module are straight so they will align properly with the connector in the terminal base.
4. Position the module **(4)** with its alignment bar **(5)** aligned with the groove **(6)** on the terminal base.
5. Press firmly and evenly to seat the module in the terminal base unit. The module is seated when the latching mechanism **(7)** is locked into the module.

Connect Wiring for the 1794-OB8EPXT, 1794-OB16PXT and 1794-IB10XOB6XT

1. Connect individual output wiring to numbered terminals on the 0...15 row as indicated in [Table 1 on page 6](#), [Table 2 on page 6](#), and [Table 4 on page 7](#) (1794-OB16P – terminals 0...15, 1794-OB8EPXT – even numbered terminals 0...14).
2. Connect the associated -V output common to the corresponding terminal on the 16...33 row (B) for each output as indicated in the accompanying table. Commons are internally connected together.
For 1794-OB8EPXT, connect associated output common to odd-numbered terminals on row A or associated terminals on row B.
3. For 1794-IB10XOB6XT, connect the associated +V DC power lead of the input device to the corresponding terminal on the 34...51 row (C) for each input as indicated in the table. The +V power terminals of row (C) are internally connected together.
4. For 1794-IB10XOB6XT, connect the associated input device common (3-wire devices only) and output device common to the corresponding terminals on the 16-33 row. (B) for each input and output as indicated in the table below. Commons are internally connected together.
5. Connect +V DC power to terminal 34 on the 34...51 row (C).
6. Connect -V DC common to terminal 16 on the 16...33 row (B).
7. If daisy chaining power to the next terminal base, connect a jumper from terminal 51 (+V DC) on this base unit to terminal 34 on the next base unit.
8. If continuing -V DC common to the next base unit, connect a jumper from terminal 33 (common) on this base unit to terminal 16 on the next base unit.

Connect Wiring for the 1794-IB16XT

1. Connect individual input wiring to numbered terminals on the 0...15 row (A) as indicated in [Table 3 on page 6](#).
2. Connect the associated +V DC power lead of the input device to the corresponding terminal on the 34...51 row (C) for each input as indicated in the accompanying table. The +V power terminals of row (C) are internally connected together.
3. Connect the associated input common (3-wire devices only) to the corresponding terminal on the 16...33 row. (B) for each input as indicated in the accompanying table. Commons are internally connected together.
4. Connect +V DC power to terminal 34 on the 34...51 row (C).
5. Connect DC common to terminal 16 on the 16...33 row (B).
6. If daisy chaining power to the next terminal base, connect a jumper from terminal 51 (+V DC) on this base unit to terminal 34 on the next base unit.
7. If continuing DC common to the next base unit, connect a jumper from terminal 33 (common) on this base unit to terminal 16 on the next base unit.

Table 1 - Wiring Connections for the 1794-0B16PXT (with 1794-TB2, 1794-TB3, or 1794-TB3S)

Output	Output Terminal	Common Terminal
Output 0	A-0	B-17
Output 1	A-1	B-18
Output 2	A-2	B-19
Output 3	A-3	B-20
Output 4	A-4	B-21
Output 5	A-5	B-22
Output 6	A-6	B-23
Output 7	A-7	B-24
Output 8	A-8	B-25
Output 9	A-9	B-26
Output 10	A-10	B-27
Output 11	A-11	B-28
Output 12	A-12	B-29
Output 13	A-13	B-30
Output 14	A-14	B-31
Output 15	A-15	B-32
+V DC	C-34...C-51 (C-34 and C-51 for 1794-TB2)	
Common	B-16...B-33	

Table 2 - Wiring Connections for the 1794-0B8EPXT

Output	1794-TB2, 1794-TB3, 1794-TB3S		1794-TBN	
	Output Terminal	Common Terminal ⁽¹⁾	Output Terminal	Common Terminal ⁽²⁾
Output 0	A-0	A-1/B-17	B-0	C-1
Output 1	A-2	A-3/B-18	B-2	C-3
Output 2	A-4	A-5/B-19	B-4	C-5
Output 3	A-6	A-7/B-20	B-6	C-7
Output 4	A-8	A-9/B-21	B-8	C-9
Output 5	A-10	A-11/B-22	B-10	C-11
Output 6	A-12	A-13/B-23	B-12	C-13
Output 7	A-14	A-15/B-24	B-14	C-15
+V DC	C-34...C-51 (C-34 and C-51 for 1794-TB2, 1794-TBN)			
Common	B-16...B-33 (B-16 and B-33 for 1794-TBN)			

(1) 1794-TB2, 1794-TB3, 1794-TB3S - A-1, A-3, A-5, A-7, A-9, A-11, A-13, and A-15 are connected together inside the module to 24V DC common.

(2) 1794-TBN - C-1, C-3, C-5, C-7, C-9, C-11, C-13, and C-15 are connected together inside the module to 24V DC common.

Table 3 - Wiring Connections for the 1794-1B16XT (with 1794-TB3 or 1794-TB3S)

Input	Input Terminal	Voltage Terminal	Common Terminal ⁽¹⁾
Input 0	A-0	C-35	B-17
Input 1	A-1	C-36	B-18
Input 2	A-2	C-37	B-19
Input 3	A-3	C-38	B-20
Input 4	A-4	C-39	B-21
Input 5	A-5	C-40	B-22
Input 6	A-6	C-41	B-23
Input 7	A-7	C-42	B-24
Input 8	A-8	C-43	B-25
Input 9	A-9	C-44	B-26
Input 10	A-10	C-45	B-27
Input 11	A-11	C-46	B-28
Input 12	A-12	C-47	B-29
Input 13	A-13	C-48	B-30
Input 14	A-14	C-49	B-31
Input 15	A-15	C-50	B-32
+V DC	C-34...C-51		
Common	B-16...B-33		

(1) 3-wire devices use input, supply and common; 2-wire devices use input and supply.

Specifications

Output Modules

Attribute	1794-0B8EPXT	1794-0B16PXT	1794-IB10X0B6XT
Number of outputs, non-isolated, sourcing	8 (1 group of 8)	16	6
Module location	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TBN	1794-TB2, 1794-TB3, 1794-TB3S	
On-state current	1.0 mA min, per channel 2.0 A max, per channel	1.0 mA min, per channel 500 mA max, per channel	2.0 A max, per channel
On-state voltage range, min	19.2 V DC	10 V DC	10 V DC
On-state voltage range, nom	24 V DC	24 V DC	24 V DC
On-state voltage range, max	31.2 V DC	31.2 V DC	31.2 V DC
Supply voltage, nom	24V DC		
Voltage range	19.2V DC...31.2V DC	10V DC...31.2V DC	10...31.2 V DC (includes 5% AC ripple)
Supply current	55 mA @ 24V DC	35 mA @ 24V DC	15 mA @ 19.2 V DC 19 mA @ 24 V DC 8 mA @ 10V DC 25 mA @ 31.2V DC
Output current rating	2.0 A, max, per output 10.0 A max, per module (for example, 8 outputs @ 1.25 A, 5 outputs @ 2.0 A, or similar combinations totaling 10.0 A or less)	8.0 A (16 outputs @ 0.5A)	2.0 A per output 10.0 A max, per module
Surge current	4.0 A for 10 ms, repeatable every 3 s	1.5 A for 50 ms, repeatable every 2 s	4.0 A for 50 ms, repeatable every 2 s
Off-state leakage, max	0.5 mA		
On-state voltage drop, max	0.2 V DC	0.5 V DC	1.0 V DC @2 A, 0.5 V DC @1A
Isolation voltage	50V (continuous), Basic Insulation Type No isolation between individual channels Type tested at 1500V AC for 60 s, between field side and system	50V (continuous), Basic Insulation Type No isolation between individual channels Type tested at 2550V DC for 60 s, between field side and system	50V (continuous), Basic Insulation Type No isolation between individual channels Type tested at 1365V AC for 60 s, between field side and system
Output signal delay, max Off to On On to Off	0.5 ms 1.0 ms		
Flexbus current	80 mA	60 mA	50 mA
Power dissipation, max	5 W @ 31.2 V DC	5.0 W @ 31.2 V DC	6.0 W @ 31.2 V DC
Thermal dissipation, max	17.1 BTU/hr @ 31.2 V DC	17.0 BTU/hr @ 31.2 V DC	20.3 BTU/hr @ 31.2 V DC
Indicators (field side indication, logic driven)	8 yellow status indicators 8 red fault indicators	16 yellow status indicators	6 yellow status indicators
Fusing	Outputs are electronically fused	Outputs are electronically protected	Module outputs are not fused. ⁽¹⁾

(1) Fusing is recommended. If fusing is desired, you must supply external fusing. Use SAN-0 M04-3A or Littelfuse 235-003 fuses.

Input Modules

Attribute	1794-IB10X0B6XT	1794-IB16XT
Number of inputs	10, nonisolated, sinking	16 (1 group of 16), nonisolated, sinking
Module location	1794-TB2, 1794-TB3, 1794-TB3S	1794-TB3, 1794-TB3S Terminal Base Unit
On-state current, min	2.0 mA	2.0 mA
On-state current, nom	8.0 mA @ 24V DC	3.0 mA @ 24V DC
On-state current, max	11.0 mA	4.0 mA
On-state voltage range, min	10 V DC	
On-state voltage range, nom	24 V DC	
On-state voltage range, max	31.2 V DC	
Supply voltage, nom	24V DC	24V DC
Voltage range	10...31.2 V DC (includes 5% AC ripple)	10V DC...31.2V DC
Supply current	15 mA @ 19.2 V DC 19 mA @ 24 V DC 8 mA @ 10V DC 25 mA @ 31.2V DC	50 mA @ 24V DC
Off-state voltage, max	5.0 V DC	
Off-state current, min	1.5 mA	
Input impedance	4.8 KΩ	
Isolation voltage	50V (continuous), Basic Insulation Type No isolation between individual channels Type tested at 1365V AC for 60 s, between field side and system	50V (continuous), Basic Insulation Type No isolation between individual channels Type tested at 850V AC for 60 s, between field side and system
Flexbus current	50 mA	30 mA