

TYPE EXAMINATION CERTIFICATE



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[2]

Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3]

Type Examination Certificate Number: **DEMKO 16 ATEX 1591X Rev. 3**

[4]

Product: **Interface modules, Open Type Programmable Controllers – Series EP u-remote**

[5]

Manufacturer: **Intelligent Platforms LLC**

[6]

Address: **2500 Austin Drive, Charlottesville, VA 22911 USA**

[7]

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **4789090987.1.1**

[9]

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013

EN 60079-15:2010

except in respect of those requirements listed at item 18 of the Schedule.

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If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11]

This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

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The marking of the product shall include the following:

 **II 3 G Ex nA IIC T4 Gc**

 **II 3 G Ex nA nC IIC T4 Gc (Model EP-2714 only)**

Certification Manager

Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2016-07-27

Re-issued: 2020-01-27



Certification Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[15] Description of Product:

The Interface modules, Open Type Programmable Controllers – Series EP u-remote modules are intended to be used in combination with programmable controllers and intended to be used for communication and input / output purposes. The system consists of Bus Coupler Modules and Input / Output Modules with different functions.

The Input and Output Modules are consisting of a base module with connections to the communication bus and power sources, different electronic modules and a modular terminal block module.

Models:

EP-1214, EP-1218, EP-125F, EP-2214, EP-2614, EP-2218, EP-225F, EP-2714, EP-5111, EP-5112, EP-5422, EP-5442, EP-3164, EP-4164, EP-3704, EP-3804, EP-8310, EP-7631, EP-7641, EP-711F, EP-751F, EP-700F, EP-710F, EP-750F, EPXPBS001, EPXPNS001, EPXMBE001, EPXETC001, EP-1901, EP-1922, EP-1902, EP-3124, EP-1318, EP-12F4, EP-2634, EP-2814, EP-5212, EP-3264, EP-3368, EP-3468, EP-3F68, EP-4264, EP-5261, EP-1804, EP-5311, EPXMBE101, EP-8400, EP-3664, EPXPNS101, EPXEIP001, EP-153F, EP-2924, EP-291F, EP-5324.

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Model	Type	Main Input	Auxiliary Input / Output
EPXPNS001 EPXPNS101	Bus Coupler ProfiNet IRT	Input voltage I port: DC 24V Input current at I port at full load: ≤10A Input voltage O port: DC 24V Input current at O port at full load: ≤10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EPXETC001	Bus Coupler EtherCat	Input voltage I port: DC 24V Input current at I port at full load: ≤10A Input voltage O port: DC 24V Input current at O port at full load: ≤10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EPXMBE001	Bus Coupler ModBus TCP	Input voltage I port: DC 24V Input current at I port at full load: ≤10A Input voltage O port: DC 24V Input current at O port at full load: ≤10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EPXPBS001	Bus Coupler Profibus DP	Input voltage I port: DC 24V Input current at I port at full load: ≤10A Input voltage O port: DC 24V Input current at O port at full load: ≤10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EP-1214 EP-12F4	2 or 4 Digital Inputs	Rated voltage: 24V DC from internal I bus	Rated voltage: 24V DC Sensor supply: 24Vdc, 2A resistive maximum per sensor, unfused
EP-125F EP-153F	16 Digital Inputs	Rated voltage: 24V DC from internal I bus	Rated voltage: 24V DC

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Model	Type	Main Input	Auxiliary Input / Output
EP-2214	4 Digital Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current (DO): 0.5A resistive maximum per output sensor supply (auxiliary 24VDC): 2A maximum per sensor, unfused
EP-2218	8 Digital Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current: 24Vdc, 0.5A resistive or tungsten maximum per output
EP-2614 EP-2924	4 Digital Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current (DO): 2A resistive or tungsten maximum per output Sensor supply (auxiliary 24VDC): 2A maximum per sensor, unfused Total current: 10A per module
EP-2218	8 Digital Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current: 24Vdc, 0.5A resistive or tungsten maximum per output
EP-225F EP-291F	16 Digital Outputs	Rated voltage: 24V DC from internal bus	rated voltage: 24V DC Output current: 24Vdc, 0.5A resistive or tungsten maximum per output
EP-2714	4 Relay Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 250Vac Rated current: 2.4A per channel at 60°C and 3A per channel at 55°C
EP-3164 EP-3124	4 Analog Inputs	Rated voltage: 24V DC from internal I bus	Type of input: analog +/-10V, +/-5V, 0..10V, 0..5V, 2..10V, 1..5V, 0..20mA or 4..20mA Sensor supply: 24Vdc, 2A maximum per sensor, unfused, 0.5A for HD version, fused
EP-3F68	8 Analog Inputs	Rated voltage: 24V DC from the 4 pole terminal block of the module	Type of input: analog 0..20mA or 4..20mA Sensor supply: 24Vdc, 1A maximum, fused
EP-4164 EP-4264	4 Analog Outputs	Rated voltage: 24V DC from internal O bus	Type of output: analog +/-10V, +/-5V, 0..10V, 0..5V, 2..10V, 1..5V, 0..20mA or 4..20mA
EP-3264	4 Analog Inputs	Rated voltage: 24V DC from internal I bus	Type of input: analog +/-10V, +/-5V, 0..10V, 0..5V, 2..10V, 1..5V, 0..20mA or 4..20mA Sensor supply: 24Vdc, 0.5A fused
EP-3704	4 Analog Inputs Resistive Temperature Detection	Rated voltage: 24V DC from internal I bus	Type of input: analog Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni 200, Ni500, Ni1000, Cu10, 40 Ω, 80 Ω, 150 Ω, 300 Ω, 500 Ω, 1 kΩ, 2 kΩ, 4 kΩ
EP-3804	4 Analog Inputs Thermocouple	Rated voltage: 24V DC from internal I bus	Type of input: analog TC type J, K, T, B, N, E, R, S, L, U, C, mV +/-15.625mV, +/-31.25mV, +/-62.5mV, +/-125mV +/-250mV, 500mV, +/-1000mV, +/-2000mV

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Model	Type	Main Input	Auxiliary Input / Output
EP-7631	Power Feed Input	Rated voltage: 24V DC from 4 pole terminal block	Rated voltage: 24V DC Rated current: 10A
EP-7641	Power Feed Output	Rated voltage: 24V DC from the 4 pole terminal block	Rated voltage: 24V DC Rated current: 10A
EP-710F EP-711F EP-8310	Potential Distribution Module for Input Current Path	Rated voltage: 24V DC from internal I bus	0V / GND Rated current: 10A
EP-750F EP-751F EP-700F	Potential Distribution Module for Output Current Path	Rated voltage: 24V DC from internal O bus	0V / GND Rated current: 10A
EP-1318 EP-1218	8 Digital Inputs	Rated voltage: 24V DC from internal I bus	Rated voltage: 24V DC Sensor supply: 24Vdc, 2A maximum per sensor unfused, HD version FWT 1 to 4: 0.5A maximum total current, FWT 5 to 8: 0.5A maximum total current
EP-5212 EP-5111 EP-5112	Counter with or without digital output	Rated voltage: 24V DC from internal I bus	Rated voltage: 24V DC Output current 1CNT-1DO: 0.5A resistive maximum per output Sensor supply: 24Vdc, 2A maximum per sensor unfused
EP-5422 EP-5442	Pulse Width Controller with 0.5A or 2A output	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current: 0.5(for ...PN-0.5A models) 2A (for ...PN-2A models) resistive maximum per output Sensor supply: 24Vdc, 2A maximum per sensor unfused
EP-2634	4 Digital Outputs	Rated voltage: 24V DC from internal O bus	Rated voltage: 24V DC Output current: 2A resistive or tungsten maximum per output Sensor supply: 24Vdc, 2A maximum per sensor, unfused Total current per module: 10A maximum
EP-2814	4 Solid State Relay Outputs		Rated voltage: 24V DC SSR rated voltage: 250Vac SSR rated current: 1A resistive maximum per channel, unfused
EP-1901 EP-1902 EP-1922	Power Feed Output	Rated voltage: 24V DC from the 4 pole terminal block of the module	Rated voltage: 24V DC Rated current: OSSD: 8A resistive SSI: 0.5A resistive

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Model	Type	Main Input	Auxiliary Input / Output
EPXMBE101	Bus Coupler Modbus / TCP	Input voltage I port: DC 24V Input current at I port at full load: <=10A Input voltage O port: DC 24V Input current at O port at full load: <=10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 8A at 60°C, horizontal mounting, 6A at 55°C, vertical mounting
EPXEIP001	Bus Coupler Ethernet IP	Input voltage I port: DC 24V Input current at I port at full load: <=10A Input voltage O port: DC 24V Input current at O port at full load: <=10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EP-3368 EP-3468	8 Analog Inputs	Rated voltage: 24V DC from internal I bus	Type of input: analog +/-10V, +/-5V, 0..10V, 0..5V, 2..10V, 1..5V, 0..20mA or 4..20mA Sensor supply: 24Vdc 2A maximum per sensor, unfused, 0.5A for HD version, fused
EP-5261	1 Port Digital Interface	Rated voltage: 24 V DC from internal I bus	Data interface signal: 232, 485 or 422 Load sensor supply: 0.4A (5V) or 0.5A (24V)
EP-1804	4 Digital Inputs	Rated voltage: 24 V	Rated input voltage: 230V AC
EP-5311	1 Port Inout Card for Incremental Encoder	Rated voltage: 24V DC from internal I bus	1 RS422 Output 2 RS422 Input
EP-3664	AI Module 4 analog inputs	5Vdc system bus 24V DC from internal I bus	Voltage: 0..5V, ±5V, 0..10V, ±10V, 1..5V, 2..10V Current: 0..20mA, 4..20mA
EP-5324	Comm. Module	5Vdc system bus 24V DC from internal I bus	0,5 A per channel, total max. 2 A
EPXPBS001	Bus Coupler Profibus DP	Input voltage I port: DC 24V Input current at I port at full load: <=10A Input voltage O port: DC 24V Input current at O port at full load: <=10A	Output voltage system bus: 5Vdc +/-2% Output current at system bus at full load: 2.56A Output / input current at O / I Port at full load: 24Vdc, 10A at 55°C, 8A at 60°C
EP-5261	1 Port Digital Interface	Rated voltage: 24 V DC from internal I bus	Data interface signal: 232, 485 or 422 Load sensor supply: 0.4A (5V) or 0.5A (24V)

Model EP-2714 is protected by "nA nC" concept, all other models are "nA" concept.

Temperature range

The ambient temperature range is -20 °C to +60 °C.

Electrical data

Input = 24Vdc. Other ratings as per the above table.

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[16] Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

[17] Special Conditions of Use:

- The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-15, accessible only by the use of a tool.
- The equipment shall only be used in an area of not more than pollution degree 2, as defined in EN 60664-1.
- When using relay modules (EP-2714 ; EP-2814) in explosive atmosphere: Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.