

GOVERNMENT APPROVED TEST LABORATORY
IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

IA CERTIFICATE

Date Issued: **21 Jan 2019**
*Expiry date: **21 Jan 2022**
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Issue: 0

Ex – Type Examination Certificate

Certificate Number: **S-XPL/19.0037 X**
Equipment: **Embedded PC**
Model / Type: **Series CX9020**
Applicant: **Beckhoff Automation (Pty) Ltd**

**7 Ateljee Street
Randpark Ridge
Randburg, Gauteng
2169, South Africa**

Manufacturer: **Beckhoff Automation GmbH & Co. KG**

Serial No: All serial numbers imported between issued- and expire date and all serial numbers covered by a valid report or acceptable product certification mark.

Supplied by
Beckhoff Automation (Pty) Ltd
Identified by Inspection Authority number
S-XPL/19.0037 X

And as described in the Explolabs file number **XPL/20209/19.0037** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.

- SANS 60079-0: 2012 Ed 5** Explosive atmospheres Part 0: Equipment — General requirements
- IEC 60079-0: 2011 Ed 6**
- SANS 60079-15: 2010 Ed 4** Explosive atmospheres Part 15: Equipment protection by type of protection "n"
- IEC 60079-15: 2010 Ed 4**
- SANS 60079-31: 2014 Ed 2** Explosive atmospheres Part 31: Equipment dust ignition protection by enclosure "t"
- IEC 60079-31: 2013 Ed 2**

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL)	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
	Group			
Enhanced	Gc Group II	Suitable for normal operation	Equipment remains functioning in zone 2	T4 (135°C)
Enhanced	Dc Group III		Equipment remains functioning in zone 22	T135°C

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

- i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
- ii) Any conditions mentioned in the above report;
- iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
- iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
- v) A revision certificate replaces all previous version of the certificate.
- vi) * - Only covers equipment Imported between the "Issued" and "Expire" dates.
- vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

1. GENERAL

The marking of the Embedded PC shall include the following:

**Ex nA IIC T4 Gc and
Ex tc IIIC T135 °C Dc**

Embedded PC Series CX9020 for use in I/O and Fieldbus systems.

The type code, the ambient temperature range and the temperature class of the modules shall be taken from Table 1.

Table 1

Description	Type/MLFB No.	Temp. code	Ambient Range	Technical Data	Supply Volt.
CX9020 Basic CPU module	CX9020-xxxx	T4	-25...+60°C	----	24Vdc
i.MX535 1GHz 1024MB Emb.-CPU CX9020	CX9020.3-V1	T4	-25...+60°C	----	----
Backplane + Netzteil CX9020	CX9320.2-V1	T4	-25...+60°C	----	----
Power supply	CX2125.3	T4	-25...+60°C	----	24Vdc
Batteriehalter CX2020, CX9020	CX2325.0	T4	-25...+60°C	----	----
2x Eth. 4x USB 1x DVI Interface CX9020	CX9220.1	T4	-25...+60°C	----	----
Optional interfaces	CX9020-xxxx	T4	-25...+60°C	----	----
Accessories	CX9020-U900	T4	-25...+60°C	----	----
Optional interfaces					
audio interface	CX9020-N020	T4	-25...+60°C	----	----
RS232 interface, D-sub plug, 9-pin	CX9020-N030	T4	-25...+60°C	----	----
RS485 interface, D-sub socket, 9-pin	CX9020-N031	T4	-25...+60°C	----	----
PROFIBUS master, D-sub socket, 9-pin	CX9020-M310	T4	-25...+60°C	----	----
PROFIBUS slave, D-sub socket, 9-pin	CX9020-B310	T4	-25...+60°C	----	----
CANopen master, D-sub plug, 9-pin	CX9020-M510	T4	-25...+60°C	----	----
CANopen slave, D-sub plug, 9-pin	CX9020-B510	T4	-25...+60°C	----	----
PROFINET RT, controller interface, Ethernet (2 x RJ45)	CX9020-M930	T4	-25...+60°C	----	----
PROFINET RT, device, Ethernet (2x RJ 45 switch)	CX9020-B930	T4	-25...+60°C	----	----
EtherNet/IP slave, Ethernet (2 x RJ 45 switch)	CX9020-B950	T4	-25...+60°C	----	----
Accessories					
internal, capacitive 1-second UPS to ensure secure backup of persistent application data on the microSD card	CX9020-U900	T4	-25...+60°C	----	----

Based on the following documentation: IECEx DEK 17.0021X Issue No.: 0

2. INSTALLATION INSTRUCTIONS

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

3. SPECIAL CONDITIONS FOR SAFE USE (denoted by "X" after certificate number)

For Ex nA:

The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

The equipment shall be installed in a suitable enclosure providing a degree of protection of at least IP54 according to IEC 60079-15, taking into account the environmental conditions under which the equipment is used.

Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 119 V.

For Ex t:

The equipment shall be installed in a suitable enclosure providing a degree of protection of IP65 according to IEC 60079-31 and SANS 10108 for group IIIA or IIIB and IIIC, taking into account the environmental conditions under which the equipment is used.

