

Certificate of Conformity

Ex EQUIPMENT

Certificate No.: **ANZEx 15.3002X**

Current Issue: 2

Date of Issue: 2023-09-22

Applicant: **CMI Electrical Products**
Unit F3, 3 – 29 Birnie Avenue
Lidcombe NSW 2141
Australia

Equipment: Range of CMI 300A/425 A 660 V/1100 V/3300 V Restrained Multi Purpose
Plugs – Becker Node

Type of Explosion Protection: Flameproof 'd'

Explosion Protection Marking: Ex d [ia Ma] I Mb IP66
Type A
'DO NOT SEPARATE WHEN ENERGIZED'

* Refer to the Table 1 & 2

*This certificate is granted subject to the requirements as set out in
Joint Accreditation System of Australia and New Zealand Publications
ANZEx System Rules 2020 & ANZEx Certified Equipment Scheme Rules 2021*

Signed for and on behalf of issuing body



Name & Position

Debbie Wouters – Acting Quality & Certification Manager

This certificate is not transferable and remains the property of the issuing body.

The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

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Manufacturer : **CMI Electrical Products**
Unit F3, 3 – 29 Birnie Avenue
Lidcombe NSW 2141
Australia

**Additional
Manufacturing
Location(s):** None

STANDARDS:

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0: 2011	Explosive atmospheres - Part 0: General requirements.
IEC 60079-1: 2007	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11: 2011	Explosive atmospheres - Part 11: Equipment protection by intrinsic Safety "i"

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

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Schedule

Equipment Description:

The CMI 300 A/425 A 660V/1100 V/3300 V Restrained Multi-Purpose Plug – Becker Node consists of a flameproof Ex d Group I certified empty enclosure under IECEx TSA 15.0003U and ANZEx 15.3001U, which is used to house a separately certified intrinsic safety device Becker Mining Node Type BMN- module, certified under IECEx INE 08.0003U and ANZEx 13.3025U.

The CMI Multi-purpose plug fitted with Becker Mining Node Type BMN- consists of cylindrical plug casting body, which one side has unpopulated three power conducting (phase) sockets and one populated pilot circuit socket, and another side is attached with cylindrical phase condition body casting and closed by metallic dummy plug cap. The Becker mining Node Type BMN is fitted inside of the multi-purpose plug and retained on the wall of dummy cap by Silicone adhesive sealant. The Node module connects to Pilot continuity circuit and uses type of protection Ex ia. It can be supplied from the contractor module. Input parameters for Becker Node Type BMN-, terminal X100 are:

Table 1

U_i (V)	I_i (mA)	P_i (W)	L_i (mH)	C_i (μF)
30.4	200	1.54 W	0	0

The multi-purpose plug must be fitted to the relevant 300 A/425 A, 660 V/1100 V/3300 V CMI restrained receptacle or restrained receptacle with cable gland and bracket or back to back receptacle, which are all provided with a jacking screw or quick release locking mechanism. When the receptacle is mounted to Ex d enclosure, the flanged joint between enclosure and receptacle must be in accordance with instruction TRP-2 to maintain the flameproof integrity of the assembly. The special fasteners and/or nuts used to assemble the plugs, receptacles and Ex d enclosure are of the minimum grade 4.6 (yield stress 240 MPa). The restrained receptacle/plug range is used to monitor and supply power reticulation systems and mobile equipment such as Shuttle car, Continuous miner, Long walls, Drills rigs in mines.

When the Multi purpose restrained Plug- Becker Node is coupled to the relevant CMI 300 A/425 A, 660 V/1100 V/3300 V restrained receptacle, the assembly can achieve degree of protection IP66.

Table 2 lists catalogue numbers in the range of Multi purpose plugs – Becker Node.

Table 2 – Summary of Multi purpose plugs – Becker Node range

Catalogue Number	Description
AM311RB	300 A /1100 V, 4 pin Multi purpose plug c/w Becker Node
AM361RB	300 A / 660 V 4 pin Multi purpose plug c/w Becker Node
AM331SB	300 A /3300 V 4 pin Multi purpose plug c/w Becker Node
AM316RB	300 A/1100 V 6 pin Multi purpose plug c/w Becker Node
AM336RB	300 A/3300 V 6 pin Multi purpose plug c/w Becker Node
AM411RB	425 A 1100 V 4 pin Multi purpose plug c/w Becker Node
AM461RB	425 A /660 V 4 pin Multi purpose plug c/w Becker Node
AM416RB	425 A/ 1100 V 6 pin Multi purpose plug c/w Becker Node
AM436RB	425 A/ 3300 V 6 pin Multi purpose plug c/w Becker Node
AM431SB*	425 A/ 3300 V 4 pin Multi purpose plug c/w Becker Node

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Electrical Ratings/Parameters

Up to 3300 V 425 A

Specific Conditions of Use:

1. The CMI Multi purpose Plug 300 A/425 A, 660V/1100 V/3300 V Restrained Plug – Becker Node must be fitted to Restrained Receptacles and Restrained Receptacles with cable gland and bracket of 300A/425 A, 660 V/1100 V/3300 V range certified under IECEx scheme certificate IECEx TSA 13.0005X.
2. When the CMI Multi purpose Plug 300 A/425 A, 660V/1100 V/3300 V restrained plug– Becker Node is engaged with CMI receptacle, the assembly must be locked by jacking spindle or quick release locking mechanism. Further the plug is marked with the following text: "DO NOT SEPARATE WHEN ENERGISED".

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Register of Issues and Variations

includes the current issue

Issue 0 dated 2015-07-14

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: 35045 – TestSafe

QAR No. & Issuing CB: AU/TSA/QAR11.0009/03 – TestSafe

File Reference: 2014/004745

Manufacturer's Documents/Drawings associated with this issue:

Document / Drawing No.:	Pages:	Document / Drawing Title	Revision	Date (yyyy-mm-dd)
F-580-1	1	300/425 A 660/1100/3300 V empty restrained multi-purpose plug W/Becker Node	A	2015-07-03

Issue 1 dated 2016-08-11

Variations Permitted by this Issue

- Catalogue number AM431SB was added to Table 2, it was left out in the original issue (marked with “**”),
- Option of large plug body. Refer to Table 3 below for complete range.

Table 3 – Summary of Multi purpose plugs - Large Body

Catalogue Number	Description
AM311RLA	300A 1100 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM361RLA	300A 660 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM331SLA	300A 3300 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM316RLA	300A 1100 V 6 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM336RLA	300A 3300 V 6 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM411RLA	425A 1100 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM461RLA	425A 660 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM431SLA	425A 3300 V 4 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM416RLA	425A 1100 V 6 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AM436RLA	425A 3300 V 6 PIN MULTI PURPOSE PLUG c/w AMPCONTROL NODE & PH IND
AT311LR	300AMP 1100 VOLT 4 PIN MULTI PURPOSE PHASE IND
AT361LR	300AMP 660 VOLT 4 PIN MULTI PURPOSE PHASE IND

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Catalogue Number	Description
AT331LS	300AMP 3300 VOLT 4 PIN MULTI PURPOSE PHASE IND
AT316LR	300AMP 1100 VOLT 6 PIN MULTI PURPOSE PHASE IND
AT336LR	300AMP 3300 VOLT 6 PIN MULTI PURPOSE PHASE IND
AT411LR	425AMP 1100 VOLT 4 PIN MULTI PURPOSE PHASE IND
AT461LR	425AMP 660 VOLT 4 PIN MULTI PURPOSE PHASE IND
AT431LS	425AMP 3300 VOLT 4 PIN MULTI PURPOSE PHASE IND
AT416LR	425AMP 1100 VOLT 6 PIN MULTI PURPOSE PHASE IND
AT436LR	425AMP 3300 VOLT 6 PIN MULTI PURPOSE PHASE IND
AR311LR	300AMP 1100 VOLT 4 PIN DUMMY PLUG
AR361LR	300AMP 660 VOLT 4 PIN DUMMY PLUG
AR331LS	300AMP 3300 VOLT 4 PIN DUMMY PLUG
AR316LR	300AMP 1100 VOLT 6 PIN DUMMY PLUG
AR336LR	300AMP 3300 VOLT 6 PIN DUMMY PLUG
AR411LR	425AMP 1100 VOLT 4 PIN DUMMY PLUG
AR461LR	425AMP 660 VOLT 4 PIN DUMMY PLUG
AR431LS	425AMP 3300 VOLT 4 PIN DUMMY PLUG
AR416LR	425AMP 1100 VOLT 6 PIN DUMMY PLUG
AR436LR	425AMP 3300 VOLT 6 PIN DUMMY PLUG
AM311RLB	300A 1100 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM361RLB	300A 660 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM331SLB	300A 3300 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM316RLB	300A 1100 V 6 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM336RLB	300A 3300 V 6 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM411RLB	425A 1100 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM461RLB	425A 660 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM431SLB	425A 3300 V 4 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM416RLB	425A 1100 V 6 PIN MULTI PURPOSE PLUG c/w BECKER NODE
AM436RLB	425A 3300 V 6 PIN MULTI PURPOSE PLUG c/w BECKER NODE

- 3 Option to install Ampcontrol Node RTX, which was certified under IECEx ITA 12.0032X. The Node module connects to Pilot continuity circuit and uses type of protection Ex ia. Input parameters are:

Table 4

U_i	L_i	C_i
28 V	Negligible	18.8 nF

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- 4 Option to install CMI phase indicator. It is connected to the phase sockets and provides indication of power and phase sequence (rotation). Input parameters are:

Table 5

Um	Power
660 / 1100 / 3300 V	8 W

- 5 Option to install Ampcontrol Node RTX together with CMI phase indicator,
 6 Option of integral viewing window on the end cap, and
 7 General update of previously certified drawing No. F-580-1, Part List revised only.

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: 35684 – TestSafe

QAR No. & Issuing CB: AU/TSA/QAR 11.0009/04 – TestSafe

File Reference: 2016/011031

Manufacturer's Documents/Drawings associated with this issue:

Document / Drawing No.:	Pages:	Document / Drawing Title	Revision	Date (yyyy-mm-dd)
F-580-1	1	300/425 A 660/1100/3300 V Restrained Multi-Purpose Plug W/Becker Node	B	2016-08-04
F-580-2	1	300/425A 660/1100/3300V Large Restrained Empty MPP	C	2016-06-08
F-580-3	1	300/425A 660/1100/3300V Large Restrained MPP W/RTX-PH IND	C	2016-06-08
F-580-4	1	300/425A 660/1100/3300V Large Restrained Dummy Plug	C	2016-06-08
F-580-5	1	300/425A 660/1100/3300V Large Restrained MPP W/PH IND	C	2016-06-08
F-580-6	1	300/425A 660/1100/3300V Large Restrained MPP W/Becker Node	C	2016-06-08

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Issue 2 dated 2023-09-22Variations Permitted by this Issue

- Applicant and Manufacturer address has been relocated to Unit F3, 3 – 29 Birnie Avenue, Lidcombe NSW 2141 Australia, previously 18-20 Railway Road, Meadowbank NSW 2114, Australia.

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: None

QAR No. & Issuing CB: AU/TSA/QAR11.0009/09 – TestSafe

File Reference: 2023/004677

Manufacturer's Documents/Drawings associated with this issue:

No change.