Certificate of Conformity

Number NMi-CoC-22.58R01
Project number 2423053

Issued by	:	NMi Certin B.V. Thijsseweg 11 2629 JA Delft The Netherlands
Applicant	:	ABB S.p.A - ABB SACE Business Via Pescaria 5 24123 Bergamo Italy
Submitted	:	**Equipment embedding PMF (Power metering and monitoring function)** Manufacturer : ABB S.p.A. – ABB SACE Business Type : Emax E2.2
Characteristics	:	PMF-II / EPMF-DD / K70 / 1 See also page 2 and further
In accordance with	:	**IEC 61557-12:2018 + AMD1:2021 (Ed. 2.1)** "Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC. – Equipment for testing, measuring, or monitoring of protective measures – Part 12: Power metering and monitoring devices (PMD)"

The undersigned declares that the described product is tested according to the above mentioned standards and meet their requirements, based on a non-recurrent examination. The appertaining test data is presented in the type evaluation report NMi-2423053-01 and NMi-2423053-02, granted by NMi.

NMi Certin B.V.
29 July 2022

Certification Board

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INSPECTION
RvA I 122

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General characteristics

Equipment	A circuit breaker embedding PMF (Power metering and monitoring function)
Classification	PMF-II (Basic power monitoring)
Structure of EPMF	EPMF-DD (Direct insertion)
Voltage range	U_n = 400 VAC $_{L-L}$ U_{min} = 100 VAC $_{L-L}$ U_{max} = 690 VAC $_{L-L}$
Current	I_b = 100 A - 2500 A I_{max} = 120 A - 3000 A
Rated frequency	f_n = 50 Hz and 60 Hz
P and E_a performance class	1
Start-up time	< 15 s
Supply voltage	24 – 48 VDC or 110 – 240 VAC

Function performance classes

Function symbol	Function	Function Performance Class IEC 61557-12	Measuring range	Other complementary characteristics
P	total active power	1	5 % $I_b \leq I \leq I_{max}$	
Q_A	total reactive power	2	5 % $I_b \leq I \leq I_{max}$	
S_A	total apparent power	1	5 % $I_b \leq I \leq I_{max}$	
E_a	total active energy	1	5 % $I_b \leq I \leq I_{max}$	
E_{rA}	total reactive energy	2	5 % $I_b \leq I \leq I_{max}$	
E_{apA}	total apparent energy	1	5 % $I_b \leq I \leq I_{max}$	
F	frequency	0.1	45 Hz - 65 Hz	
I	phase current	0.5	20% I_b to I_{max}	
I_N	measured neutral current	0.5	20% I_b to I_{max}	
U	voltage	0.5	100 V to 690 V	
PF_A	power factor	2	From 0,5 ind to 0,8 cap	
U_{nba}	voltage Unbalance amplitude	---	---	
THD_u	total harmonic distortion voltage related to fundamental	---	---	
$THD\text{-}R_u$	total harmonic distortion voltage related to r.m.s. value	---	---	
THD_i	total harmonic current related to fundamental	---	---	
$THD\text{-}R_i$	total harmonic current related to r.m.s. value	---	---	

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Environmental conditions, mechanical and EMC

Temperature	Rated operation range (with specified uncertainty	-25°C to +70°C	IEC 61557-12 Temperature class K70
	Limit range of operation (No hardware failures)	-25°C to +70°C	
	Limit range for storage and shipping	-40°C to +85°C	
Humidity	Rated operation range (with specified uncertainty	0 to 75 % RH	IEC 61557-12 Standard conditions
	Limit range of operation 30 days/Y	0 to 90 % RH	
	Limit range for storage and shipping	0 to 90 % RH	
Altitude	0 to 2000 m		IEC 61557-12 Standard conditions
EMC	Emission	IEC 61326-1	CISPR 11
	Immunity	IEC 61326-1	Table 2
Compliance with CISPR-11 is demonstrated in test report No.19-4789123803-2-1-0-EMC, issued by UL International in Carugate, Italy.			

Safety

Product safety	IEC 60947-2
Protective class	I
Rated impulse voltage	Up to 12 kV
IP rating	IEC 60529 IP20 (front face)
Compliance with IEC 60947-2 is demonstrated in test report No. 2024868STO-001 and , issued by Intertek Semko AB in Kista, Sweden.	

Certificate history:

This revision replaces the previous version.

Revision	Date	Description of the modification
00	29 June 2022	First issue.
01	14 July 2022	Issued due to editorial changes.