DNV·GL

Certificate No:
TAE00003SX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Miniature Circuit Breaker

with type designation(s)
FAZ & FAZT

Issued to
Eaton Industries (Austria) GmbH
Schrems, Austria

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Miniature Circuit Breakers. For installation inside switchboard, distributionboard and control gear enclosures.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Hamburg** on **2019-12-13**
This Certificate is valid until **2024-12-12**.
DNV GL local station: **Augsburg**

Approval Engineer: **Harald Amberger**

for **DNV GL**

Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-002190-6**
Certificate No: **TAE00003SX**

Name and place of manufacturer

Eaton Industries (Spain) S.L.,
Aresti 8,
48160 Derio, Vizcaya, Spain

Product description

Miniature Circuit Breaker Type FAZ including accessories Z-AHK, Z-NHK, ZP-NHK, ZP-IHK, ZP-WHK, Z-USA, Z-ASA, ZP-ASA, FAZ-XAM002, FAZ-XHIN11, FAZ-XHINW11, FAZ-XUA, FAZ-XAA, FAZ-XHI11

Rated operational voltage*:	254/ 440 (B & C), 240/ 415 and 230/ 400 VAC 50/60
Rated insulation voltage*:	440V AC 50/60 Hz
Rated current:	2 - 63 A
Temperature class:	-25 deg.C to +75 deg.C FAZ - B63/2
Current tripping class:	B, C, D as listed
Discrimination class:	3

Size & characteristics	**In**	**Icu[1]**	**Ics[1]**	**Icu[2]**	**Ics[2]**	**Icu[3]**	**Ics[3]**	**Type**
1 pole B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B6/1
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B../1
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B63/1
2 pole B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B6/2
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B../2
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B63/2
3 pole B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B6/3
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B../3
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B63/3
4 pole B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B6/4
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B../4
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - B63/4
1 pole C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C2/1
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C../1
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C63/1
2 pole C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C2/2
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C../2
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C63/2
3 pole C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C2/3
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C../3
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C63/3
4 pole C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C2/4
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C../4
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - C63/4

Size & characteristics	**In**	**Icu[1]**	**Ics[1]**	**Icu[2]**	**Ics[2]**	**Icu[3]**	**Ics[3]**	**Type**
1 pole D	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ - D2/1
	4 to 32 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ - D../1
	40 A	8 kA	6 kA	15 kA	7.5	10 kA	6 kA	FAZ - D40/1
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	as above
2 pole D	2 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ - D2/2
	4 to 32 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ - D../2
	40 A	8 kA	6 kA	15 kA	7.5	10 kA	7.5 kA	FAZ - D40/2
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	as above
3 pole D	2 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ- D2/3
	4 to 32 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ -D../3
	40 A	8 kA	6 kA	15 kA	7.5	10 kA	7.5 kA	FAZ -D40/3
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	as above
4 pole D	2 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ - D2/4
	4 to 32A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	FAZ -D../4
	40 A	8 kA	6 kA	15 kA	7.5	10 kA	7.5 kA	FAZ -D40/4
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5	10 kA	7.5 kA	as above

Breaker without neutral

Size & characteristics	**In**	**Icu[1]**	**Ics[1]**	**Icu[2]**	**Ics[2]**			**Type**
1 pole +N, B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B6/1N
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B../1N
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B63/1N
3 pole +N, B	6 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B6/3N
	10 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B../3N
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -B63/3N
1 pole +N, C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -C2/1N
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -C../1N
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -C63/1N
3 pole +N, C	2 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ –C2/3N
	4 to 50 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -C../3N
	63 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ -C63/3N
1 pole + N, D	2 – 32 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ –D../1N
	40 A	8 kA	6 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ –D40/1N
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	as above
3 pole + N, D	2 – 32 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ –D../3N
	40 A	8 kA	6 kA	15 kA	7.5 kA	10 kA	7.5 kA	FAZ–D40/3N
230/400V:	40 A	10 kA	7.5 kA	15 kA	7.5 kA	10 kA	7.5 kA	as above

1 Tests in accordance with IEC 60898-1
2 Tests in accordance with IEC 60947-2
3 Tests in accordance with IEC 60947-2 254/440 V

Miniature Circuit Breaker Type FAZT including accessories Z-AHK, Z-NHK, ZP-NHK, ZP-IHK, ZP-WHK, Z-USA, Z-ASA, ZP-ASA, FAZ-XAM002, FAZ-XHIN11, FAZ-XHINW11, FAZ-XUA, FAZ-XAA, FAZ-XHI11

Rated operational voltage*:	240/ 415 VAC (1p); 240 VAC (1p+N); 415 VAC (2p to 4p)
Rated insulation voltage*:	440V AC 50/60 Hz
Rated current:	0,16 - 63 A
Temperature class:	-25 deg.C to +75 deg.C
Current tripping class:	B, C, D as listed
Discrimination class:	3

Breaker without neutral

Size & characteristics	**In**	**Icu**[2]	**Ics**[2]	**Type**
1 pole B	1 to 25 A	25 kA	12.5 kA	FAZT - B../1
	32 to 40 A	20 kA	10 kA	FAZT - B../1
	50 to 63 A	15 kA	7.5 kA	FAZT - B../1
2 pole B	1 to 25 A	25 kA	12.5 kA	FAZT - B../2
	32 to 40 A	20 kA	10 kA	FAZT - B../2
	50 to 63 A	15 kA	7.5 kA	FAZT - B../2
3 pole B	1 to 25 A	25 kA	12.5 kA	FAZT - B../3
	32 to 40 A	20 kA	10 kA	FAZT - B../3
	50 to 63 A	15 kA	7.5 kA	FAZT - B../3
4 pole B	1 to 25 A	25 kA	12.5 kA	FAZT - B../4
	32 to 40 A	20 kA	10 kA	FAZT - B../4
	50 to 63 A	15 kA	7.5 kA	FAZT - B../4
1 pole C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../1
	32 to 40 A	20 kA	10 kA	FAZT - C../1
	50 to 63 A	15 kA	7.5 kA	FAZT - C../1
2 pole C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../2
	32 to 40 A	20 kA	10 kA	FAZT - C../2
	50 to 63 A	15 kA	7.5 kA	FAZT - C../2
3 pole C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../3
	32 to 40 A	20 kA	10 kA	FAZT - C../3
	50 to 63 A	15 kA	7.5 kA	FAZT - C../3
4 pole C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../4
	32 to 40 A	20 kA	10 kA	FAZT - C../4
	50 to 63 A	15 kA	7.5 kA	FAZT - C../4
1 pole D	0,5 to 13 A	25 kA	12.5 kA	FAZT - D../1
	15 to 20 A	20 kA	10 kA	FAZT - D../1
	25 to 40 A	15 kA	7.5 kA	FAZT - D../1
2 pole D	0,5 to 13 A	25 kA	12.5 kA	FAZT - D../2
	15 to 20 A	20 kA	10 kA	FAZT - D../2
	25 to 40 A	15 kA	7.5 kA	FAZT - D../2
3 pole D	0,5 to 16 A	25 kA	12.5 kA	FAZT - D../3

Size & characteristics	In	Icu[2]	Ics[2]	Type
	20 A	20 kA	10 kA	FAZT - D20/3
	25 to 40 A	15 kA	7.5 kA	FAZT - D../3
4 pole D	0,5 to 16 A	25 kA	12.5 kA	FAZT - D../4
	20 A	20 kA	10 kA	FAZT - D20/4
	25 to 40 A	15 kA	7.5 kA	FAZT - D../4

Breaker with neutral

Size & characteristics	In	Icu[2]	Ics[2]	Type
1 pole +N, B	1 to 25 A	25 kA	12.5 kA	FAZT - B../1N
	32 to 40 A	20 kA	10 kA	FAZT - B../1N
	50 to 63 A	15 kA	7.5 kA	FAZT - B../1N
3 pole +N, B	1 to 25 A	25 kA	12.5 kA	FAZT - B../3N
	32 to 40 A	20 kA	10 kA	FAZT - B../3N
	50 to 63 A	15 kA	7.5 kA	FAZT - B../3N
1 pole +N, C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../1N
	32 to 40 A	20 kA	10 kA	FAZT - C../1N
	50 to 63 A	15 kA	7.5 kA	FAZT - C../1N
3 pole +N, C	0,16 to 25 A	25 kA	12.5 kA	FAZT - C../3N
	32 to 40 A	20 kA	10 kA	FAZT - C../3N
	50 to 63 A	15 kA	7.5 kA	FAZT - C../3N
1 pole + N, D	0,5 to 13 A	25 kA	12.5 kA	FAZT - D../1N
	15 to 20 A	20 kA	10 kA	FAZT - D../1N
	25 to 40 A	15 kA	7.5 kA	FAZT - D../1N
3 pole + N, D	0,5 to 16 A	25 kA	12.5 kA	FAZT - D../3N
	20 A	20 kA	10 kA	FAZT -
	25 to 40 A	15 kA	7.5 kA	FAZT - D../3N

2 Tests in accordance with IEC 60947-2

Application/Limitation

With Uimp = 4 kV the equipment is suitable for use in an IT net (ship net) with a voltage up to 277 V. Can be used in a directly earthed system with a voltage up to 254 / 440 V.

Suitable for use in an IT system with a capacity of 1.2 times the maximum trip current up to 277 V AC.

Type Approval documentation

Tests carried out

High voltage test, vibration test, temperature test, and humidity test. IEC 60898 (type tests), IEC 60947-1 and IEC 60947-2 (Short-circuit test).

Marking of product

Eaton – Type – Voltage – Nominal current.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE