

## DATA SHEET: TEMBREAK 2 GE160-SF MCCB

MCCB Electrical Characteristics to IEC 60947-2, EN 60947-2, JIS C 8201-2-1 ANN.1, NEMA AB-1

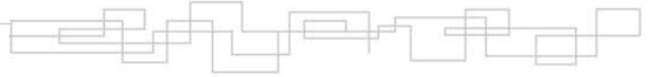
**TB2 Lite 160**

Frame Reference	Quantity	Unit	Condition	
<b>Max in ( A ) of Frame</b>				<b>160</b>
Model				E160
Number of Poles				3,4
Type				SF
<b>Nominal current ratings</b>				
	$I_n$	(A)	50°C	16,20,25, 32,40,50, 63,80,100, 125,160
<b>Electrical characteristics</b>				
Rated operational voltage	$U_e$	(V)	AC 50/60 Hz DC	525 250
Rated insulation voltage	$U_i$	(V)		690
Rated impulse withstand voltage	$U_{imp}$	(kV)		8
Ultimate breaking capacity (IEC, JIS, AS/NZS)	$I_{cu}$	(kA)	690V AC 525V AC 440V AC 400/415V AC 220/240V AC 250V DC	- 6 10 16 25 13
Service breaking capacity (IEC, JIS, AS/NZS)	$I_{cs}$	(kA)	690V AC 525V AC 440V AC 400/415V AC 220/240V AC 250V DC	- 3 5 8 13 7
Rated breaking capacity (NEMA)		(kA)	480V AC 240VAC	6 25
<b>Protection</b>				
Fixed thermal, fixed magnetic				■
Adjustable thermal, fixed magnetic				-
Utilisation category				A
<b>Installation</b>				
Front connection (FC)				■
Extension bar (FB)				•
Cable clamp (FW)				■
Rear connection (RC)				•
Plug-in (PM)				-
DIN rail mounting (DA)				•
Dimensions	height	(mm)		130
	width	(mm)	3 pole, (1 pole) 4 pole	75 100
Weight	depth	(mm)		68
	weight	(kg)	3 pole, (1 pole) 4 pole	0.8 1.0
<b>Operation</b>				
Direct Opening Action				■
Toggle operation				■
Door mounted (HS) / Breaker mounted handle (HB)				•
Motor operation				-
Endurance	Electrical	cycles cycles	415V AC	10,000 <sup>①</sup> 20 000

■ Standard    • Optional    - Not Available

① Factory-fit at time of order

② 14,000 ≤125A

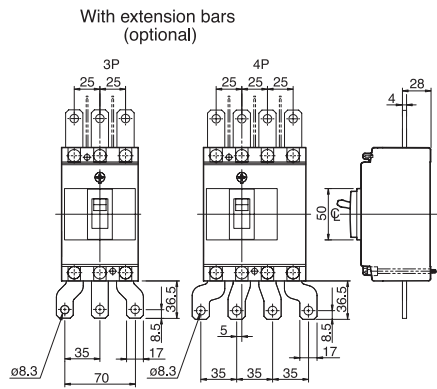
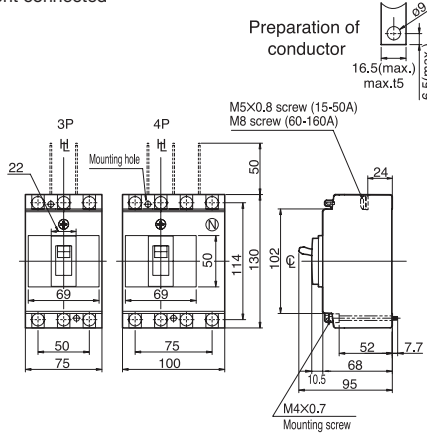


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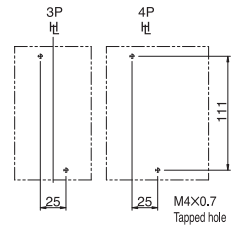
### Outline Dimensions: GE160-SF

ASL: Arrangement Standard Line  $h_t$ : Handle Frame Centre Line  $C_L$ : Handle Centre Line

Front connected

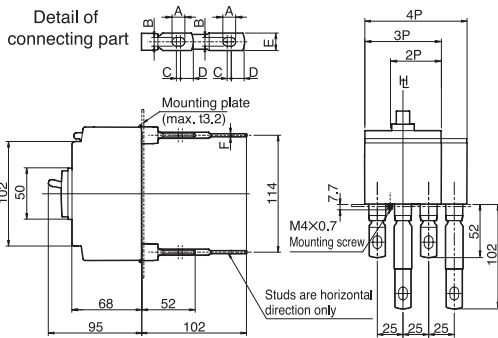


Drilling plan  
(front view)

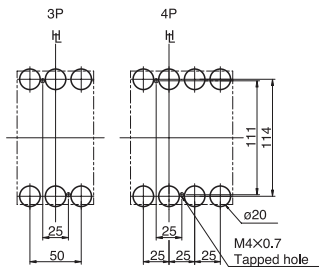


Note: For the extension bars, Straight bars or Spread bars can be supplied. 2 poles is straight bars only.

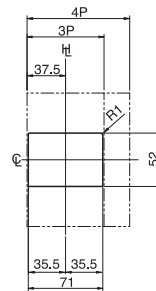
Rear connected



Drilling plan (front view)

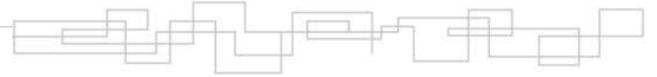


Panel cutout (front view)



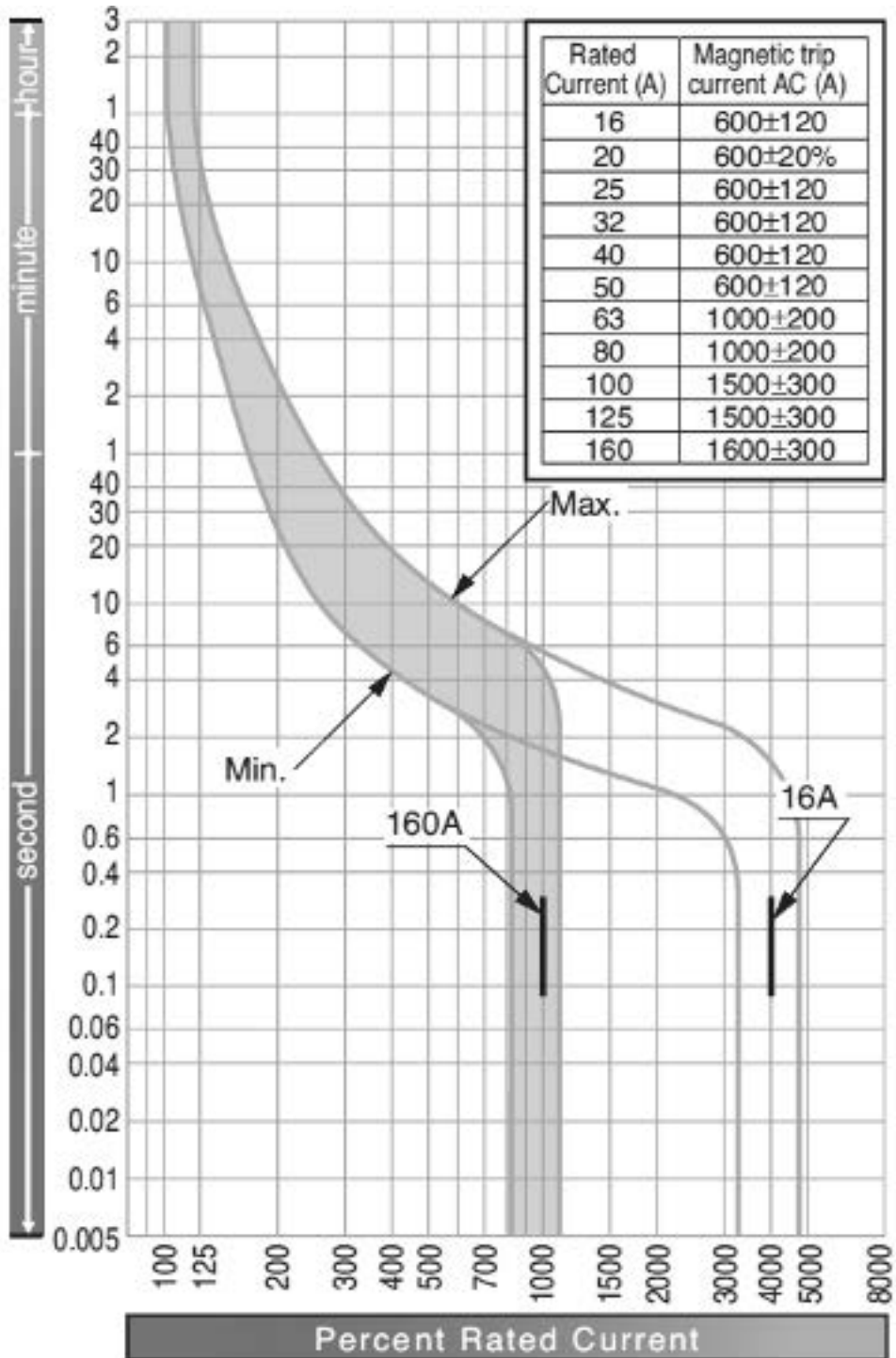
Rated current (A)	A	B	C	D	E	F
16-50	10.5	6.5	4	13	16	4
63-160	12.5	8.5	4	13	16	5

Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.



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Time/Current Characteristic Curves  
E160-SF





Dokument/document Försäkran om överensstämmelse/ Declaration of conformity		Utgåva datum/edition date 2018-08-22
Avdelning/department Produkt/Product		
Ansvarig/prepared Robert Nydén	Version 5	Sida/page 1 av/of 1

**Manufacturer/Tillverkare:** GARO AB  
Box 203  
S-335 25 GNOSJÖ  
Sweden

Telephone: +46 (0)370 33 28 00  
Internet: www.garo.se

**Agent established within EC/Ombud etablerad inom EG**

Telephone:  
Internet:

**Agent of equipment/Materielslag:** Moulded Case Circuit Breaker, MCCB/Effektbrytare, MCCB

**Trade Mark/Varumärke:** GARO

**Type Designation/Typbeteckning:** GE160SF ,GS160SCJ , SJ ,GS400-NE, 3- and 4-pole, GS250-NE, 3- and 4-pole

**We hereby declare that our product fulfils the requirements of following EC directives/**

Vi intygar härmed att vår produkt uppfyller krav enligt följande EU direktiv:

- The Low Voltage Directive (LVD) 2014/35/EU / Lågspänningsdirektivet (LVD) 2014/35/EU.**
- Electromagnetic compatibility (EMC) 2014/30/EU / Elektromagnetisk kompatibilitet (EMC) 2014/30/EU.**
- Radio Equipment Directive 2014/53/EU (RED) 2014/30/EU / Radiodirektivet (RED) 2014/53/EU.**
- RoHS Directive (RoHS) 2011/65/EU / RoHS direktivet (RoHS) 2011/65/EU.**
- No electromagnetic compatibility (EMC 2014/30/EU) immunity or emission tests are required on the assembly /** Produkten innehåller inte elektroniska apparater som påverkas enligt förbehållen enligt direktivet (EMC) 2014/30/EU.

**The following harmonised standards (latest edition) or technical specifications which comply with good engineering practice in safety matters in force within the EC have been used in the design:/**

Följande harmoniserade standarder (senaste utgåva) eller tekniska specifikationer som uppfyller god säkerhetsteknik praxis inom EG har använts i konstruktionen: **EN 60947-1 and/och 60947-2**

- The equipment confirms completely with the above stated harmonised standards or technical specifications./**  
Materielen överensstämmer helt med ovan angivna harmoniserade standarder eller tekniska specifikationer.

**Or/eller**

- The equipment confirms only partially with the above stated harmonised standards or technical specifications but complies with good practice in safety matters in force within the EC./**  
Materielen överensstämmer endast delvis med ovan angivna harmoniserade standarder eller tekniska specifikationer, men uppfyller god säkerhetsteknisk praxis inom EG.

**We have product surveillance according to CENELEC's harmonised requirements, documents CCA-201.**

GARO AB  
**Company/Företag**

2018-08-22  
**Date/Datum**

**Sign/Underskrift**

Product Manager/Produktchef  
**Position/Befattning**

Robert Nydén  
**Sign in printed letters/Namnförtydligande**