

Instruction Manual for Moulded Case Circuit Breakers

Dorman Smith Switchgear Limited
8 Swinbourne Drive
Springwood Industrial Estate
Braintree Essex
CM7 2YG UK
Tel: +44 (0) 844 225 1063
Fax: +44 (0) 844 225 1064

A410041

Please retain this manual for future reference.

The Manufacturer assumes no responsibility for damages resulting from non-application or incorrect application of the instructions provided herein.

1 Safety Notices

Be sure to read these instructions and other documents accompanying this product. Please familiarise yourself with handling of this product, safety information, and all other precautions before mounting, using, servicing or inspection. In these instructions, safety notices are divided into "Warning" and "Caution" according to the hazard level.

⚠ WARNING : A warning notice with this symbol indicates that neglecting the suggested procedure or practice could result in lethal or serious personal injury.

⚠ CAUTION : A caution notice with this symbol indicates that neglecting the suggested procedure or practice could result in moderate or slight personal injury and/or property damage.

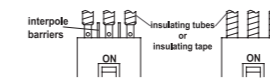
Note that failing to observe **⚠ CAUTION** notices could result in serious results in some cases. Because safety notices contain important information, be sure to read and observe them.

Mounting Precautions

For detailed mounting dimensions, refer to either the Loadline or System Loadbank catalogues.

⚠ Caution

- Electrical work should only be undertaken by suitably qualified persons.
- Do not place the product in an area that is subject to high temperature, high humidity, excessive dusty air, corrosive gas, strong vibration and shock, or other unusual conditions. Mounting in such areas could cause a fire or malfunction.
- Be careful to prevent foreign objects (debris, concrete, iron powder, etc.) and rainwater from entering product. These materials inside the product could cause a fire or malfunction.
- Prior to commencing any work on the product, open an upstream circuit breaker or isolator to ensure that no voltage is applied to the product otherwise electrical shock may result.
- For 4 pole breakers, be sure to connect a neutral conductor to the N-phase pole, otherwise, an overcurrent may hinder the product from tripping thus resulting in a fire.
- When connecting cable or busbar to the product, tighten terminal screws to the torque specified in this manual, otherwise, a fire could result.
- After conductor connection, do not apply excessive force to the terminals. Otherwise, a fire may result.
- For front-connected breakers, insulate all bare conductors of the line side until the breaker end. If interpole barriers are packed, be sure to use the barriers; moreover, insulate all bare conductors by insulating tape or the like so that the tape overlaps with the barriers. Insufficient insulation may result in short-circuit.
- Do not block the arc gas vents of the product to ensure adequate arc space. Blocking these vents could result in failure of circuit interruption.



Handling Precautions

⚠ Warning

- Never touch terminals. Otherwise, electric shock may result.

⚠ Caution

- When the breaker trips open automatically, remove the cause, then return the handle to the ON position. Should a fault be interrupted, the breaker must be inspected, otherwise, a fire may result.

Maintenance Precautions

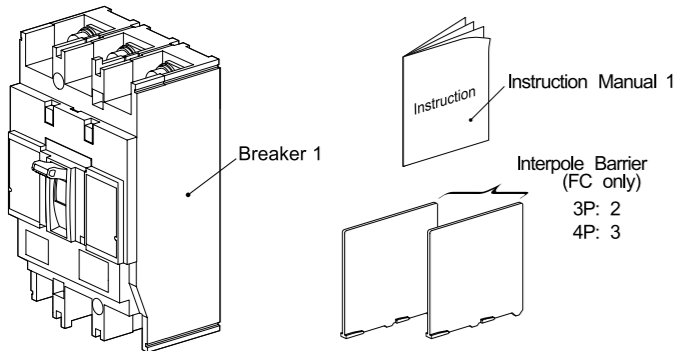
⚠ Caution

- Service and/or inspection of the product must be done by persons having expert knowledge.
- Before servicing or inspecting the product, open an upstream circuit breaker or the like to isolate all sources of power. Otherwise, electric shock may result.
- Regularly check that the breaker terminal screws are tightened to torque values shown within this manual, failure to do so may result in fire.

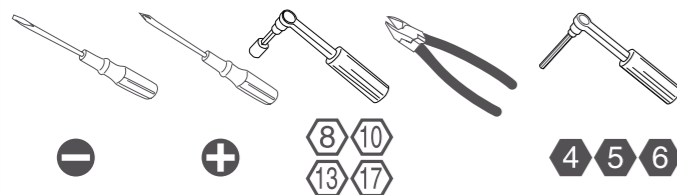
Other Precautions

- Do not carry this product by accessory leads, as this may cause damage to the product.
- Unauthorised opening of the breaker cover will invalidate product warranty.
- When installing the product, use wires or conductors, the cross sectional areas of which accommodate the rated current of the product. Using wires or conductors with inadequate cross sectional areas may cause false tripping and overheat.

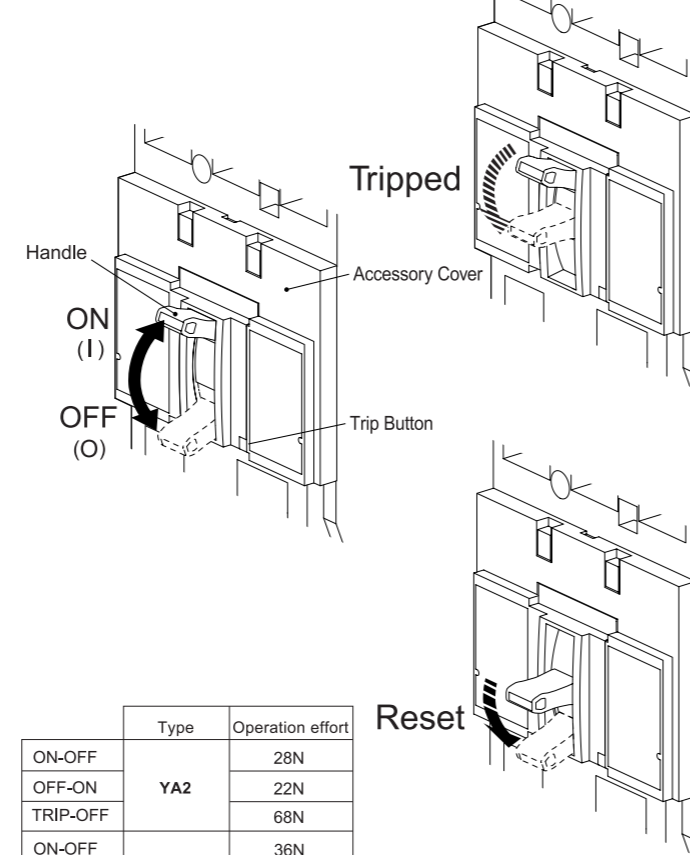
2 Packaged Items/Assembly tools



Connections/Poles	Type YA2	Type YA3
Front Connected	3P 6 (M8x16)	3P 6 (M8x20)
	4P 8 (M4x55)	4P 8 (M4x55)
Rear Connected	3P 6 (M8x25)	3P 6 (M8x25)
	4P 8 (M4x55)	4P 8 (M4x55)
Plug-in Connected	3P 4 (M4X80)	3P 4 (M4X80)
	4P 4 (M4X80)	4P 4 (M4X80)



3 Operating Instructions



	Type	Operation effort
ON-OFF	YA2	28N
OFF-ON		22N
TRIP-OFF		68N
ON-OFF	YA3	36N
OFF-ON		25N
TRIP-OFF		76N

4 Fitting Internal Accessories

Auxiliary switch
YAAUX

Alarm switch
YAAL

Shunt Trip YAST_ _

Undervoltage Trip YAUVR_ _

Ring Mark

11/AXc-14/AXa	21/AXc-24/AXa	Auxiliary Switch a contact
11/AXc-12/AXb	21/AXc-22/AXb	Auxiliary Switch b contact
91/ALc-94/ALa		Alarm Switch a contact
91/ALc-92/ALb		Alarm Switch b contact
C1 - C2		Shunt Trip power source
D1 - D2		Undervoltage Trip power source

Micro switch type

Ring Mark

AX	●	●
AL	●	●
SH	□	□
UV	□	□

Removal

Pull Out Leads on Load Side

Cut off f,g,h,i along the grooves carved on the back.

After fitting, verify the function of the Accessory

5 Breaker Mounting Procedure for Front Connected and Rear Connected Types

A	M4x55
	1.7~2.2Nm

6 Conductor Connection Procedure for Front Connected Types

	YA2	YA3
C	≤ 16mm	≤ 22mm
D	≤ 8mm	≤ 11mm
E	8.4mm	8.4mm
F	≤ 17mm	≤ 25mm
G	≤ 8.5mm	≤ 10mm
H	≤ 5mm	≤ 7mm
I	9mm	9mm

	YA2	YA3
J	M8x16mm	M8x20mm
	4.9~6.9Nm	7.8~12.7Nm

	YA2	YA3
K	M8x25mm	M10x25mm
	11.8~18.6Nm	22.5~37.2Nm

Insulate all bare conductors of the line side until the breaker end

9 Procedure for mounting Plug-in type MCCB

	YA2	YA3
Y	M3.5	
	1.2 ~ 1.4 Nm	
Z	M4x70mm	
	1.7 ~ 2.2 Nm	

7 Procedure for Installing Plug-in Mounting Base

	YA2	YA3
S	M5x20mm	
	2.2~3.5Nm	
S2		M8

8 Conductor Connection Procedure for Rear Terminal Type

Arrangement Set (0°, 45°, 90°)

	YA2	YA3
L	M6 x 20mm	
	7.8~11.8Nm	
M	9mm	
N	M8 x 25mm	
	11.8~18.6Nm	

10 Conductor Preparation for Plug-in Type

	YA2	YA3
T	≤ 15 mm	≤ 25 mm
U	≤ 10 mm	≤ 15.5 mm
V	6.5 mm	9 mm
W	-	≤ 15.5mm

	YA2	YA3
X	M6	M8
	3.6~6.0 Nm	8.8~14.7 Nm

11 Procedure for mounting Cable Clamps

	YA2	YA3
O	≤ 17mm	≤ 20mm
P	≤ 50mm²	≤ 120mm²
Q	6Nm	19Nm
R	M5 x 15mm	M6 x 20mm
	2.4~3.4Nm	6.9~9.3Nm
R2		M8

12 Interpole Barrier Mounting Procedure

	YA2	YA3
	M6	M8
	3.6~6.0 Nm	8.8~14.7 Nm

13 Terminal Cover Mounting procedure

Connection	Terminal Cover
Front connection	YA2TS*P (125AF) YA3TS*P (250AF)
Rear/Plug-in Connection	YA2TR*P (125AF) YA3TR*P (250AF)
Cable Clamp	YA2TC*P (125AF) YA3TC*P (250AF)

14 Handle Lock Mounting Procedure

Handle lock can be fitted in any position of ON and OFF
When removing, remove the items in reverse order of mounting

15 Adjustable Thermal/ Magnetic Type

