



: 4004 " " 1
: +359 32 / 695 164; 677 160; 695 149; : +359 32 / 670 522; 692 664

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: +359 32 / 695 164; 677 160; 695 149; : +359 32 / 670 522; 692 664

ELECTRICAL APPARATUS PLANT - EAZ inc. - Plovdiv
1 "Tzar Boris III - Obединitel" bul; 4004 Plovdiv; Bulgaria
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VDE Prüf- und Zertifizierungsinstitut

ZEICHENGENEHMIGUNG
MARKS LICENCE

EAZ Inc.
1 Tzar Boris III Obединitel
4004 Plovdiv

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС ВГ.МЕ79.В00438
Срок действия с 20.05.2002 г. по 20.05.2005 г.
N 1807612

ОРГАН ПО СЕРТИФИКАЦИИ № РОСС RU.0001.11.МЕ79
ОРГАН ПО СЕРТИФИКАЦИИ ЭЛЕКТРООБОРУДОВАНИЯ
АНОЦЗ "ЭЛЕКТРОПРИВОД"
107078, Москва, ул. Садовая-Славянская, д. 1/2, корп. 5; телефакс 208-28-34

ПРОДУКЦИЯ
Автоматические выключатели серии "А"
(см. Приложение №0652408)
Выпуск по документации изготовителя
Серийный выпуск

СООТВЕТСТВУЕТ ТРЕБОВАНИИМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ГОСТ Р 50030.2-99 (МЭК 60947-2-98) р.р. 5-7

ИЗГОТОВИТЕЛЬ "ЕАЗ" - АД - Пловдив
бу-д. "Цар Борис III - Обединител" 1, 4004 Пловдив, България

СЕРТИФИКАТ ВЫДАН "ЕАЗ" - АД - Пловдив
бу-д. "Цар Борис III - Обединител" 1, 4004 Пловдив, България
тел.: (00359) 32-775164; факс: (00359) 32-670522

НА ОСНОВАНИИ
- протокола испытаний № 091/29-02 от 18.05.02 г.
ИД ЭТН ОАО "Электроривод", аттестат № РОСС RU.0001.22.МО76 от 06.04.2000 г.
107078, Москва, ул. Садовая-Славянская, д. 1/2, стр. 5;
- протокола испытаний № А-33 от 25.04.01 г.
ИД электрических аппаратов и электрооборудования и электрических регулирующих
и управляющих устройств, аттестат № С-П от 10.03.99
Бюро прию, 4004 Пловдив, България;
- Сертификата системы сертификации № 1 от 12.03.99 г. № 107078, Москва, ул. Садовая-Славянская, д. 1/2, стр. 5;
- Органом по сертификации РОСС RU.0001.11.МЕ79



АВТОМАТИЧНИ МОЩНОСТНИ ПРЕКЪСВАЧИ

АВТОМАТИЧЕСКИЕ ВЫКЛЮЧАТЕЛИ

MOULDED CASE CIRCUIT BREAKERS



SGS United Kingdom Ltd
Yarsley International Certification Services

Certificate Number

Q13518

This is to certify that the
Quality Management systems of

Electro Apparatus Plant EAZ - inc - Plovdiv
Bulgaria

have been assessed and registered as meeting the
requirements of ISO 9001

The scope of registration is detailed on the Assessment
Schedule bearing this certificate number

SGS Yarsley International Certification Services
Signed by

[Signature]
Sally Hildrew, Director

Срещане и изготвяне на сертификати за качество
и управление на качеството на електрооборудоване
и електрически системи
11000, Yarsley, Leicestershire, LE19 1RQ, UK
DUNS NUMBER: 217021 Leicestershire, UK
Co Leicestershire, Leicestershire, UK





USAGE

Moulded Case Circuit Breakers (MCCBs) are intended to control and protect against overload and short-circuit three phase AC or DC circuits and consumers.

OPERATING CONDITIONS

Ambient temperature:
 (-10 ÷ +45)°C - AT00; A1; A2; A3; A4-I; A5
 (-10 ÷ +40)°C - A100; A250
 (-5 ÷ +40)°C - AM125; AM160; AM250
 - ÷ 90%/20°
 -2000 m

CLIMATIC VERSIONS

- normal N, tropical TIIL and marine M

STANDARDS

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
In, A	6059-84										

EN60947-2, Category A;

TECHNICAL DATA

Rated voltage Ue, V

Ue, V	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
Ue, V AC	500	500					690				
Ue, V DC	220	250					250				

Rated current In, A

In, A	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
In, A	16; 32	100	100	125	160	250	250	250; 400	630	800	1000

Number of poles

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
	2, 3	2, 3	3	3	3	3	3	3	3	3	3

Breaking capacity

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
Icu, kA Ue=500V	2,5; 2										
Icu, kA Ue=400V		6	12	12	16	25	12	16	35	35	35
Ics/Icu, %	100	100	75	75	75	75	100	75	75	75	75
cos	0,7; 0,9	0,7	0,3	0,35	0,35	0,25	0,3	0,3	0,25	0,25	0,25

Mechanical durability

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
op.c	250 000	8 500	8 500	7 000	7 000	7 000	7 000	7 000	4 000	2 500	2 500

Electrical durability

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
op.c	100 000	1 500	1 500	1 000	1 000	1 000	1 000	1 000	1 000	500	500

Indicator of contact's condition

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
	-	-	-	-	-	-	-	-	-	-	-

RELEASES

Electromagnetic (ER)

(ER)	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
I>	10.In/14.In	10.In/14.In	10.In/14.In	10.In	10.In	10.In	5.In/10.In	10.In	(2÷4).In/(5÷10).In	(5÷10).In	(5÷10).In

(ThR)

(ThR)

Thermal Release (ThR)



125,

125,

Moulded Case Circuit Breakers (MCCBs) have adjustable thermal release except AM125 only.

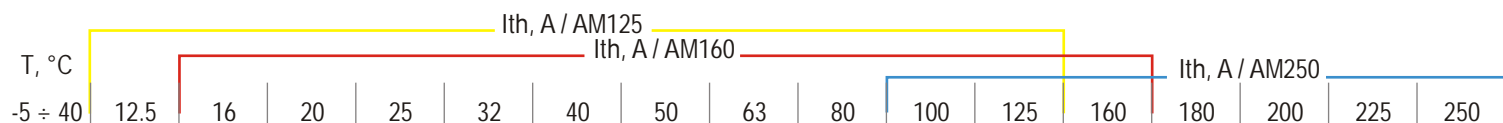
The change of area of thermal adjustment range according to ambient temperature is specified in the tables below.

lth -

lth

T, °C	lth, A / AT00												T, °C	lth, A / A100				
-10 ÷ 45	0,35	0,6	1	1,6	2,5	4	6	10	16	21	26	32	-10 ÷ 40	40	50	63	80	100
0 ÷ 45	0,2÷0,35	0,35÷0,6	0,6÷1	1÷1,6	1,6÷2,5	2,5÷4	4÷6	6÷10	10÷16	16÷21	20÷26	26÷32	20	36÷44	44÷54	54÷66	71÷84	88÷104
60	0,2÷0,35	0,35÷0,6	0,6÷1	1÷1,6	1,6÷2,5	2,5÷4	4÷6	6÷10	9÷16	15÷20	19÷25	24÷30	40	32÷40	40÷50	50÷63	63÷80	80÷100

T, °C	lth, A / A1																	
-10 ÷ 45	2.5	3.2	4	5	6.3	8	10	12.5	16	20	25	32	40	50	63	80	100	
20	2.5÷3	3÷4	4÷5	5÷6	6÷7.5	7.5÷9.5	9.5÷12.5	12.5÷15.5	15.5÷19	19÷24	24÷29	29÷37	37÷45	45÷55	55÷72	72÷90	90÷113	
40	2.1÷2.6	2.6÷3.4	3.4÷4.2	4.2÷5.2	5.2÷6.5	6.5÷8.5	8.5÷10.5	10.5÷13	13÷17	17÷21	21÷26	26÷33	33÷41	41÷51	51÷66	66÷83	83÷103	
45	2÷2.5	2.5÷3.2	3.2÷4	4÷5	5÷6.3	6.3÷8	8÷10	10÷12.5	12.5÷16	16÷20	20÷25	25÷32	32÷40	40÷50	50÷63	63÷80	80÷100	
60	1.5÷2	2÷2.6	2.6÷3.3	3.3÷4.2	4.2÷5.5	5.5÷6.5	6.5÷8.5	8.5÷11	11÷13	13÷17	17÷21	21÷27	27÷35	35÷45	45÷58	58÷72	72÷93	



T, °C	lth, A / A250				lth, A / A2									
-10 ÷ 45	125	160	200	250	63	80	100	125	160	200	250	320	400	
20	110÷138	138÷172	172÷215	215÷270	63÷80	80÷100	100÷125	125÷160	160÷200	200÷250	250÷300	300÷400	370÷470	
40	100÷125	125÷160	160÷200	200÷250	52÷65	65÷85	85÷105	105÷130	130÷170	170÷210	210÷260	260÷340	330÷415	
45					50÷63	63÷80	80÷100	100÷125	125÷160	160÷200	200÷250	250÷320	320÷400	
60					43÷55	55÷70	70÷90	90÷110	110÷145	145÷180	180÷225	220÷290	290÷360	

T, °C	lth, A / A3										lth, A / A4-I			lth, A / A5	
-10 ÷ 45	80	100	125	160	200	250	320	400	500	630	630	700	800	1000	
20	75÷95	95÷120	120÷145	145÷185	185÷225	225÷280	280÷370	370÷470	470÷580	580÷695	580÷695	730÷830	775÷875	900÷1100	
40	65÷85	85÷105	105÷103	130÷165	165÷205	205÷260	255÷330	330÷415	415÷520	520÷645	520÷645	655÷730	710÷810		
45	63÷80	80÷100	100÷125	125÷160	160÷200	200÷250	250÷320	320÷400	400÷500	500÷630	500÷630	630÷700	700÷800	800÷1000	
60	55÷70	70÷90	90÷115	115÷150	150÷190	190÷235	225÷290	290÷360	360÷450	450÷595	450÷595	570÷620	670÷755		

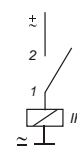
(IR)

(IR)

ACCESSORIES

Shunt opening release (IR)

Ue, V	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
AC (42÷60Hz)	24÷500	110÷380	110÷500	24÷400			220÷500				
DC	24÷500	110÷220	24÷220	24÷250			220÷500				



(UvR)

(UvR)

Under voltage release (UvR)

Ue, V	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
AC (50÷60Hz)	24÷380	110÷380	110÷500	24÷400	24÷400	24÷440	220÷500				
DC	24÷100	110÷220	24÷220	24÷220	24÷220	24÷250	220÷500				

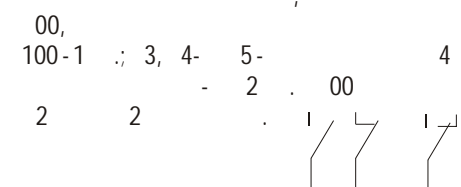


(AC)

(AC)

Auxiliary contacts (AC)

MCCBs have change-over auxiliary contacts except At00 only. A100 has 1 contact. A3, A4-I and A5 have up to 4 auxiliary change-over contacts. All others MCCBs have up to 2. AT00 can has up to 2 NO or NC contacts.



Ue=380V AC; 220V DC

Ue=380V AC; 220V DC

Technical data:
Ue=380V AC; 220V DC

	AT00	A100	A1	AM125	AM160	AM250	A250	A2	A3	A4-I	A5
Ith, A	10	4	10	10	10	10	4	4	10	10	10
Ie, A AC15	1	1	0.63	1.5	1.5	1.5	1	1	0.63	0.63	0.63
Ie, A DC15	0.25	0.4	0.5	0.25	0.25	0.25	0.4	0.4	0.5	0.5	0.5



100; 1; 2; 3; 4-; 5

100; 1; 2; 3; 4-; 5

Rotary handle
A100; A1; A2; A3; A4-I; A5



- 100; 1; 250; 2
1000- 3; 4-; 5

- 100; 1; 250; 2
1000- 3; 4-; 5

Remote control
ZED - A100; A1; A250; A2
ZED1000 - A3; A4-I; A5

Technical data:
Power consumption, VA:
ZED - 1100
ZED1000 - 2500

U_i = 1100
1000 - 2500

U_i = 1100
1000 - 2500

Rated isolation voltage -
U_i = 500V~

U_i = 500V~

U_i = 500V~

Rated operational voltage -
U_e = 110; 230; 380V~

U_e = 110, 230, 380V~
- 50/60 Hz

U_e = 110, 230, 380V~
- 50/60 Hz

Rated frequency - 50/60 Hz
Rated duty - short-time duty

0,5 s

0,5 s

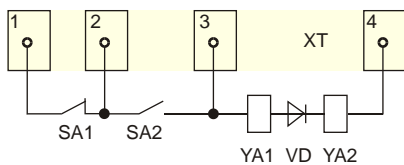
Time for turning ON and OFF 0,5 s

Admissible frequency for ON and OFF operations -
÷ 5 times with pause 10 s

÷ 5 10 s

÷ 5 10 s

Electrical diagram:



XT - / / output terminal
SA - / / end-position switches
YA - / / electromagnets
VD - / / diode

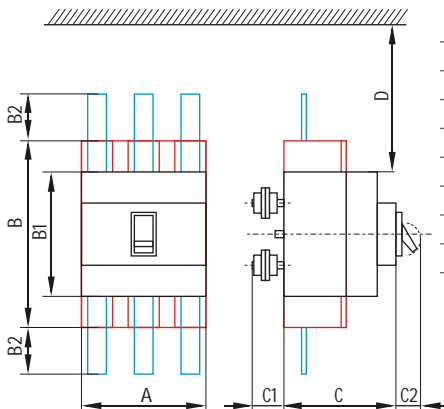


MECHANICAL VERSION

Fixed with front terminals -
A100; AM...; A250; A2; A3; A4-I; A5
Fixed with front terminals for cables -
AT00; A100; A1
Fixed with rear terminals -
A100, A2, A3
Plug-in with rear terminals -
A100

DIMENSIONS

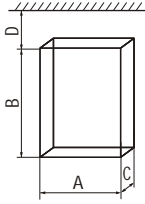
Dimensions, isolation distance and weight



	A100	A1	AM125	AM160	AM250	A250	A2; A2-400	A3	A4-I	A5
A, mm	75	115	76.2	90	105	105	140	192	192	192
B, mm	125	112	120	120	170	182	225	289	289	289
B1, mm	-	-	-	-	-	-	175	227	-	-
B2, mm	-	-	-	-	-	-	-	-	80	80
C, mm	75	121	70	70	101.5	100	129	157	157	157
C1, mm	65	-	-	-	-	-	50	60	-	-
C2, mm	15	31	-	-	-	38	35	62.5	77.5	77.5
D, mm	65	65	65	65	65	75	75	100	120	120
G, kg	0.9	1.5	1.8	2	2	2.8	4; 4.8	9.2	13	17

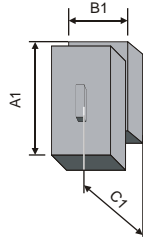
— / Version - front terminals
— A2-400; A4-I; A5

UvR



	AT00	IP00	IP00/UvR	IP30	IP54	IP54/UvR
A, mm	75					
B, mm	125	125				
C, mm	72	72				
D, mm	35	35	35	35	35	
G, kg	0.54					

Dimensions and weight with Remote Control unit



	A100	A1	A250	A2; A2-400	A3	A4-I	A5
A1, mm	180	190	215	232	301	301	301
B1, mm	130	130	130	140	192	192	192
C1, mm	169	210	198	209	270	270	270
G1, kg	2.7	3.5	4.6	5.8; 6.8	12.4	16.2	20.2

3 mm 100 5 mm - 2

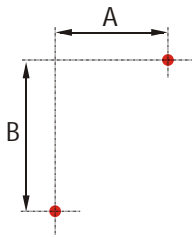
100 - 3 mm, - 5 mm.

NOTE:

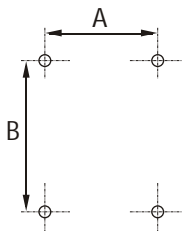
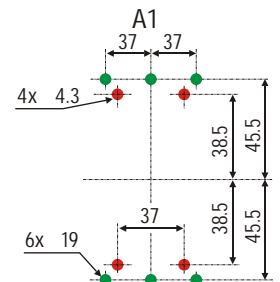
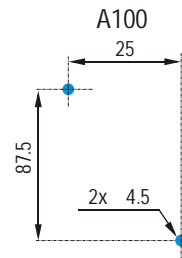
Minimal distance between 2 MCCBs type A100 - 3 mm; between others - 5 mm.

INSTALLATION

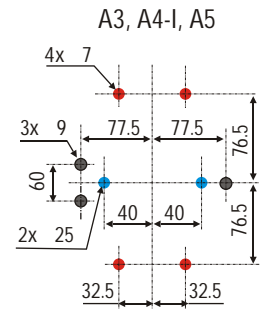
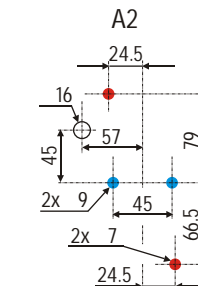
Drawings and dimensions for boring of holes for installation MCCBs version - front terminals:



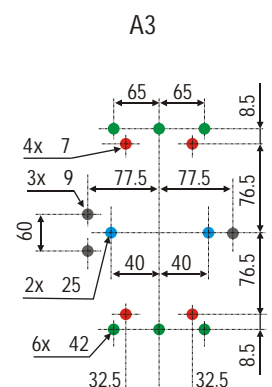
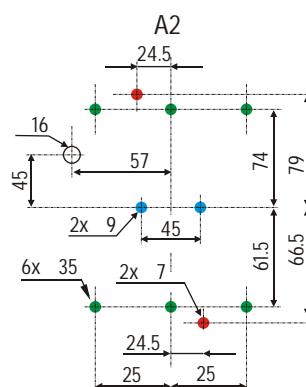
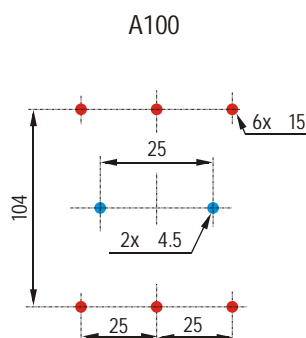
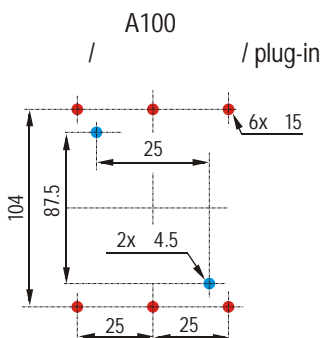
	AT00 IP00/30	AT00 IP00; UvR	AT00 IP54	AT00 IP54; UvR
A, mm	65	65	72	93
B, mm	105	105	105	128
	5.2	4	4.8	4.8

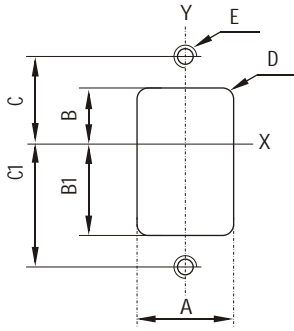


	AM125	AM160	AM250	A250
A, mm	25	30	35	49
B, mm	100	100	139	162
⌀	4.5	4.5	5.5	4.5



Drawings and dimensions for boring of holes for installation MCCBs version - rear terminals:





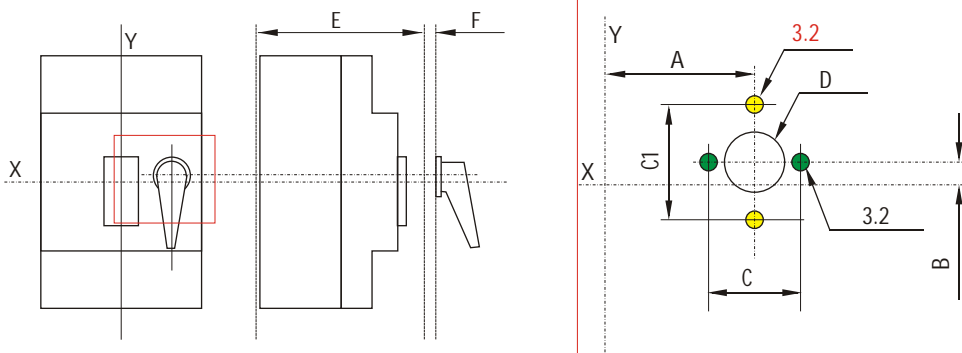
	A100	A1	AM...	A250	A2	A3, A4-I, A5
A, mm	75.5*	33	16		50	80
B, mm	35.5	21.5	14		42.5	37
B1, mm	35.5	38.5	14		45.5	66
C, mm	-	31.5	-		57.5	-
C1, mm	-	48.5	-		60.5	-
D	-	R6	-		R7.5	R9.5
E	-	M3	-		M4	-

* - 100
=32,5 mm

* - 100
=32,5 mm

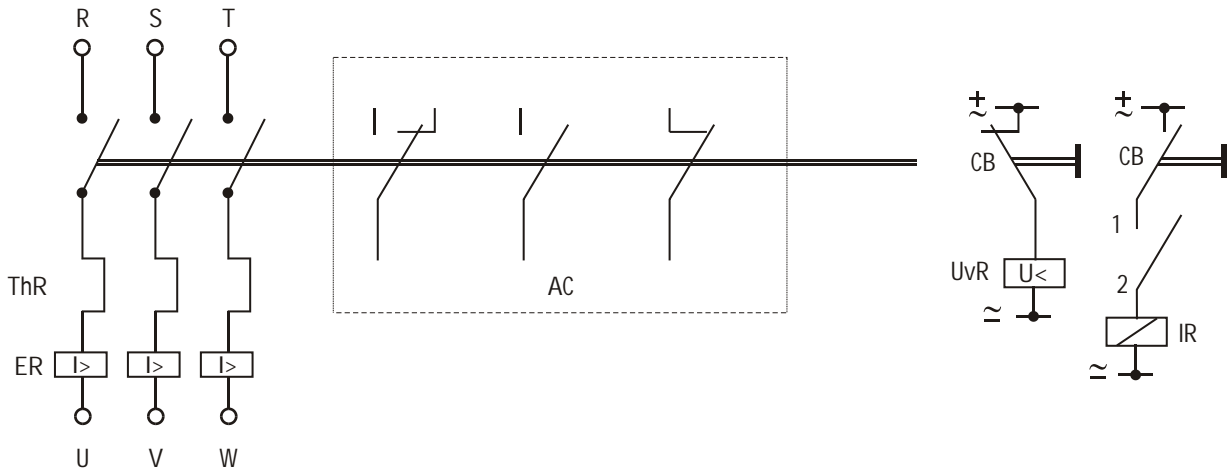
* - A=32.5 mm for A100 - version front cable terminals

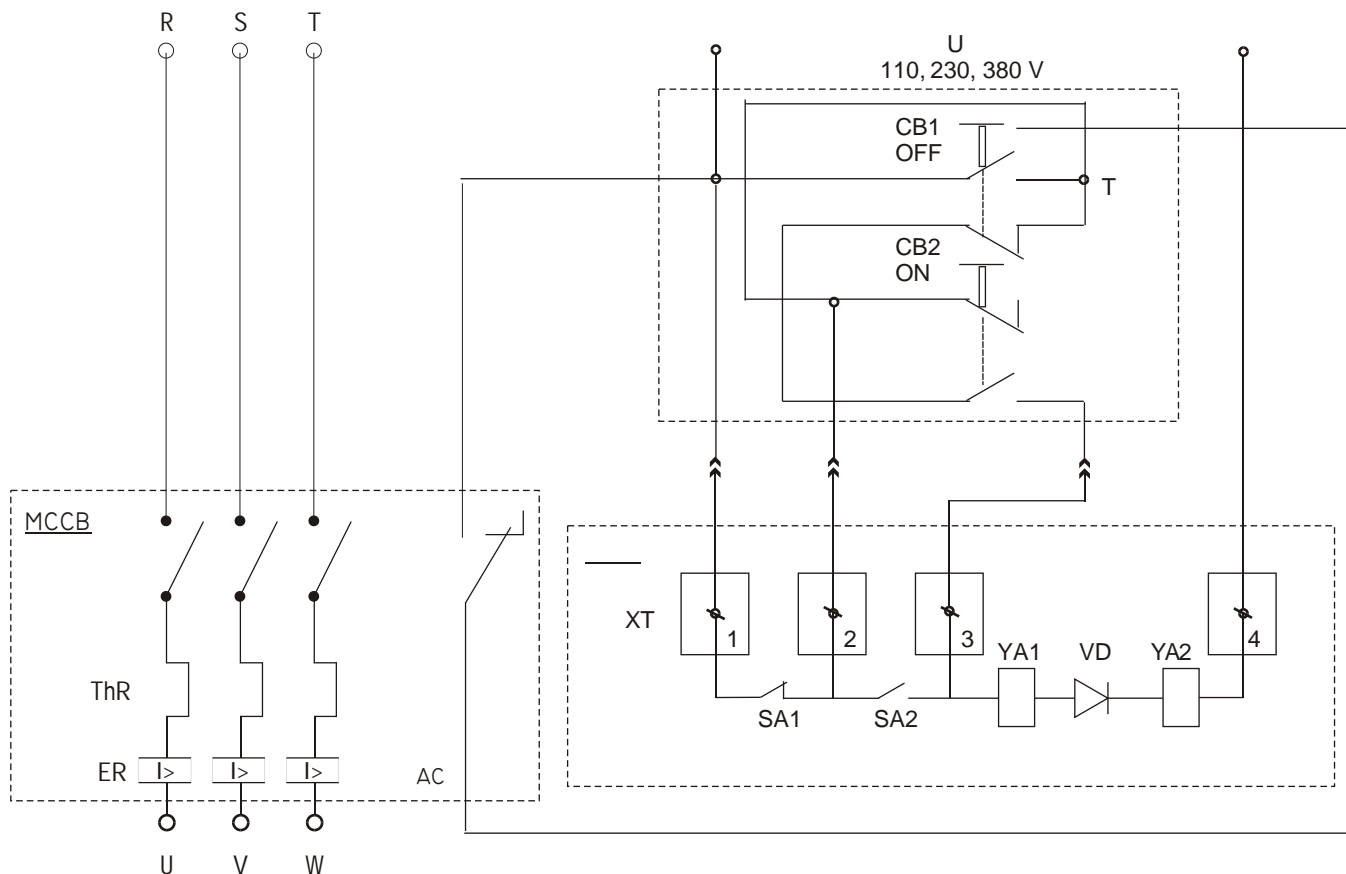
Installation of rotary handle



	A100	A1	A250	A2	A3, A4-I, A5
A, mm	20.5	37	35	48	60
B, mm	2.5	7.5	6	2	30.5
C, mm	35	35	35	35	-
C1, mm	-	-	-	-	XX
D, mm	25	25	25	25	XX
E, mm		147.5	147.5	176	196.5
F, mm	max 3	max 2.5	max 2.5	max 2.5	max 2,5

Electrical diagram of MCCB





- 1.
- 2.
- 3.
- 4.
5. *
- 6.
7. **
8. ***

_____ :
* / /
** / 00 100/
*** / 00

160 ;
4).In;
220V / 50Hz; 4

3, 160 , (2-4)In,
4 ; " "

- 1.
- 2.
- 3.
- 4.
5. *
- 6.
7. **
8. ***

_____ :
* / /
** / 00 100/
*** / 00

160 ;
(2 - 4).In;
220V; 50Hz; 4

3, 160 , (2-4)In;
220V/50Hz; 4 ; " "

ORDER

To order a moulded case circuit breaker it is obligatory to indicate next data:

1. Mark
2. Thermal current
3. Electromagnetic release current
4. Mechanical version
5. Accessories*
6. Climatic version
7. Number of pole**
8. Degree of protection***

Note:

- * Not define when MCCB will operate as disconnecter (load switch)
- 3. ** Only when number of pole is not 3 (refer to At00 or A100)
- *** Only for At00

For example:
MCCB type A3; with thermal current 160A; electromagnetic release (2 - 4).In; rear terminals; with under voltage release 220V / 50Hz; with 4 auxiliary contacts; climatic version - marine(for mounting on ships) is ordered as follows:

A3; 160A; (2-4)In; rear terminals; UvR 220V/50Hz; 4AC; "M"