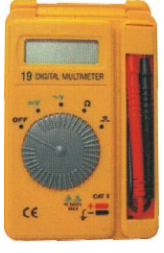






MULTIMETER


	DCV	400.0mV,4.000V,40.00V, 4.000V,500V
	ACV	4.000V,40.00V,400.0V,500V
	RESISTANCE	400.0Ω,4000Ω,40.00kΩ, 400.0kΩ,4.000MΩ,40.00MΩ
	SIZE	1.8 x 7.9 x 12
	WEIGHT	200g
	SD-19	BEEPER


	DCV	0-0.1-0.5-2.5-10-50-250-1000V (20KΩ/V) ± 3%
	ACV	0-10-50-250-1000V (8KΩ/V) ± 40%
	DCA	0-50 μA-2.5-25mA,0.25A (250mV drop) ± 3%
	RESISTANCE	2KΩ,20KΩ,2MΩ,20MΩ (Mid scale 20Ω) ± 3%
	DECIBEL	-10 to + 50 dB
	ICEO	150mA,15mA,150 μA
	LV	3V
SD-360TRN	BATTERY	1.5V x 2.9V x 1


	DCV	200mV,2V,20V,200V,500V
	ACV	200V,500V
	DCA	200 μA,2mA,20mA,200mA
	RESISTANCE	2MΩ,200kΩ,20kΩ,2kΩ, 200Ω
	DT-810B	BATTERY


	DCV	0.1-0.5-2.5-10-50-250-1000V
	ACV	10V-50V-250V-1000V
	DCA	50 μA-2.5mA,25mA-250mA
	RESISTANCE	x1: 0-0.2Ω-2kΩ CENTER20Ω x10: 0-2Ω-20kΩ CENTER200Ω x100: 0-20Ω-200kΩ CENTER2kΩ x1k: 0-200Ω-2MΩ CENTER20kΩ x10k: 0-2kΩ-20MΩ CENTER200kΩ
	DB	-10dB~+22dB(FOR 10VAC) ~ +62dB 0dB/0.775V(1mW THROUGH 600Ω)
	BATTERY	1.5V x 2.9V x 1
	SD-960TR	BEEPER

	DCV	24.0mV-600V
	ACV	2.400V,24.00V,240.0V,600V
	A	240 μA,2400 μA,24.00mA, 240.0mA,2.400A,10.00A
	RESISTANCE	240.0Ω,2400Ω,24.00kΩ, 240.0kΩ,2.400MΩ,24.00MΩ
	HZ	50.00Hz,500.0Hz,5.000kHz, 500.0kHz,5.000MHz
	WEIGHT	250g
	SIZE	3.9 x 7.0 x 15.5 cm
	SD-30	BEEPER

	ACA	200A,600A(50/60Hz,40-1kHz)
	ACV	200V,600V(50/60Hz,40-1kHz)
	RESISTANCE	200Ω ± (1.2%rdg+4dgt)
	DIMENSIONS	208 x 90 x 40 mm
	SD-2017	WEIGHT

	DCV	200mV,2V,20V,200V,600V
	DCA	200 μA,2mA,20mA,200mA, 10A
	ACV	200V,600V
	FREQUENCY RANGE	40Hz to 400Hz
	RESISTANCE	200Ω,2kΩ,20kΩ,200kΩ, 2MΩ
	SD-820DL	hFE

	ACA	200A-1000A
	DCV	1000V
	ACV	750V
	INSULATION	2000MΩ,20MΩ
	RESISTANCE	200Ω,20KΩ
	SIZE	9" x 2.7" x 1.5"
SD-266	WEIGHT	310g

	DCV	1000V,750V
	ACV	20A,200A,1000A
	RESISTANCE	200kΩ,2kΩ
	SD-201	BEEPER

Push Button Switch,
Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch,
Warning Light, Alarm

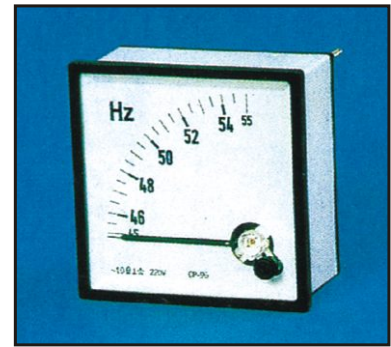
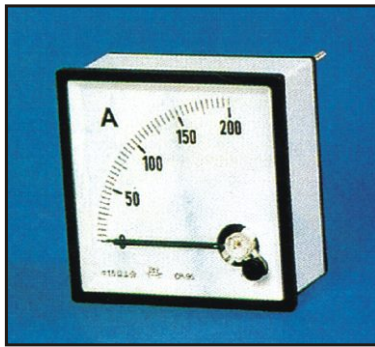
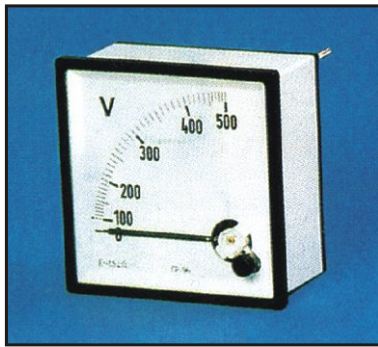
Thermocouple, Temperature
Controller, Sensor

Panel Meter,
Can Switch, C.T.

Hoist Push Button, Enclosure,
Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor,
Overload Relay

PANEL METER



BE96-V

BE72-V

BE96-A

BE72-A

BE96-HZ

BE72-HZ

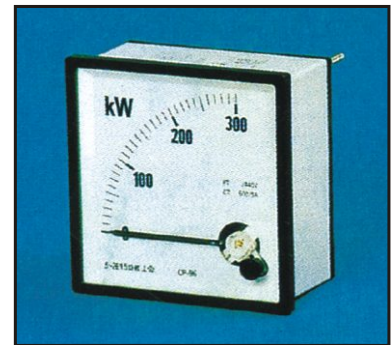
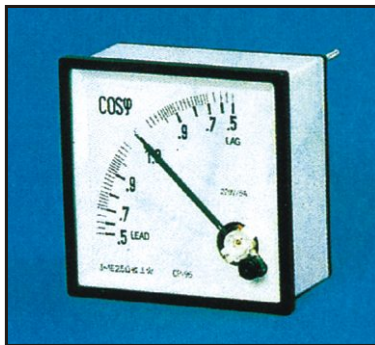
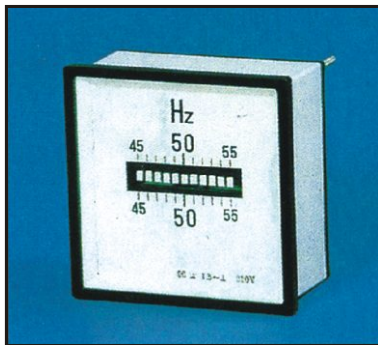
AC Voltmeters (moving iron) \sim V
 Item: BE96-V BE72-V
 Accuracy class: 1.5
 Specification: 30, 50, 75, 100, 120, 150, 200, 250, 300, 400, 550, 600V
 For 450-450KV meters use potential transformer with secondary voltage 100V

DC Voltmeters (moving coil) — V
 Item: BE96-V BE72-V
 Accuracy class: 1.5
 Specification: 0.1, 0.3, 0.5, 10, 15, 20, 30, 50, 75, 100, 150, 220, 250, 300, 450, 500, 600V
 rated voltage over 600V use external resistor (rated Current 5mA)

AC Ammeters (moving iron) \sim A
 Item: BE96-A BE72-A
 Accuracy class: 1.5
 Specification: 0.1, 0.5, 1, 1.5, 3.5, 7.5, 10, 15, 20, 25, 30, 50, 60, 75, 100A
 For 75A-10KA, Use external current transformer, which secondary current is 5A.
 Note: For 60A, 75A, 100A meters, when these meters direct connect circuit their accuracy are class 2.5
 10/5, 15/5, 25/5, 30/5, 50/5, 60/5, 75/5, 100/5, 50/5, 200/5, 250/5, 400/5, 600/5, 800/5, 1000/5, 1500/5, 2000/5, 2500/5, 4000/5, 6000/5.

DC Ammeters (moving coil) — A
 Item: BE96-A BE72-A
 Accuracy class: 1.5
 Specification: 1, 3, 5, 10, 15, 20, 30, 50, 75, 100, 150, 200, 250, 300, 500mA
 1, 3, 5, 735, 10, 20, 30, 50, 60, 100, 150, 250, 400, 600A
 For 60A-10KA use external 75mV shunt.

Frequency Meters (pointer) \sim Hz
 Item: BE96-HZ BE72-HZ
 Accuracy class: 2.5
 Specification
 voltage: 110, 220, 380, 440V
 frequency: 45~55Hz, 55~65Hz, 45~65Hz, 45~60Hz, 50~60Hz



BE96-VHZ

BE72-VHZ

BE96-PF

BE72-PF

BE96-KW

Frequency Meters (Vibrating reed) \sim Hz
 Item: BE96-VHZ BE72-VHZ
 Accuracy class: 1.5
 Specification
 voltage: 110, 220, 380, 440V
 frequency: 45~55Hz, 55~65Hz, 45~65Hz, 47~53Hz, 57~63Hz

Power Factor Meters (electronic)
 — 3~1ECOS ϕ
 Item: BE96-PF BE72-PF
 Accuracy class: 2.5 (ELECTRICAL)
 Specification
 voltage: 110, 220, 380, 440V
 frequency: 50~60Hz
 COS: LEAD0.5~LAG0.5
 test voltage: 2KV, 50~60Hz

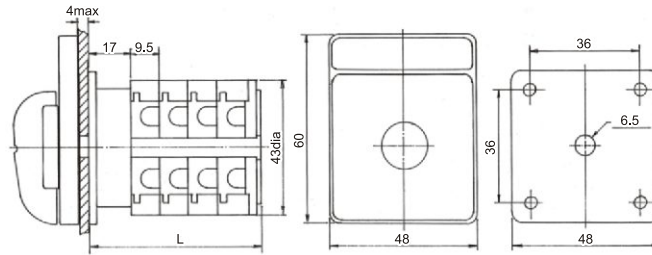
Single Phase Power Meters (electronic) \sim W
 Item: BE96-W
 Accuracy class: 2.5
 Specification
 voltage: 110, 220, 380, 440V
 current: 5A
 test voltage: 2KV, 50~60Hz
 These meters are used with potential transformer or current transformer, which secondary voltage is 110V secondary current is 5A.

Push Button Switch, Pilot Lamp
 Terminal Block
 SSR, Socket, Relay, Timer
 Limit Switch, Warning Light, Alarm
 Thermocouple, Temperature Controller, Sensor
 Panel Meter, Can Switch, C.T.
 Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator
 MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 20A, 32A, 63A



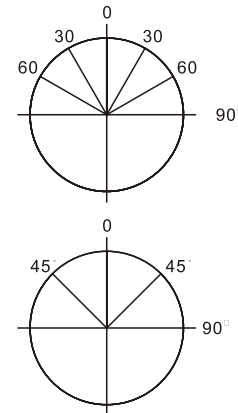
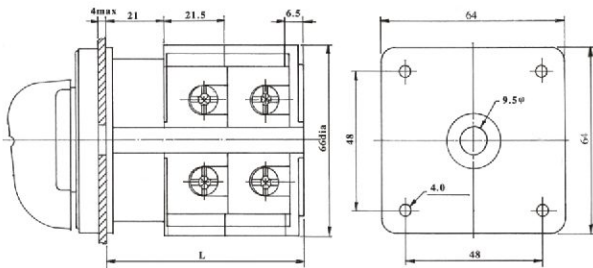
CE Dimensions mounting for A2, R2, switches (20A)



Total Number of stage	1	2	3	4	5	6	7	8
Length L	31.5	41	50.5	60	69.5	79	88.5	98

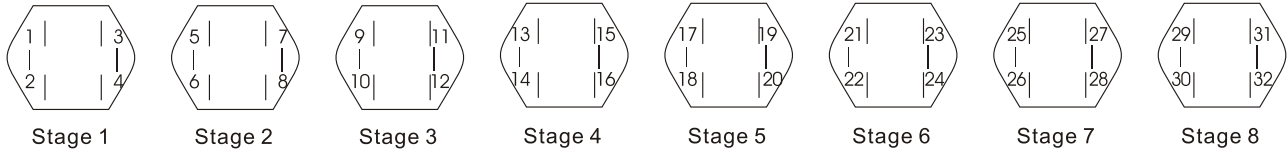
Dimensions mounting for A3, A4, A6 switches (32A, 40A, 63A)

Switches position



Total Number of stage	1	2	3	4	5	6
Length L	49	70.5	50.5	113.5	135	156.5

Connecting diagram



Specification

Selection data	Switch models			
	A2 R2	A3	A4	A6
AC1 Resistive or low inductive loads 660V	20A	32A	40A	63A
AC21 Switching of resistive loads IEC / VDE / BS	20A	25A	32A	40A
AC22 Switching of Combine resistive or low inductive loads 600V	20A	32A	40A	63A
AC11 Switching of control devices contactors 220V / 380V / 440V	6A / 4A	14A / 6A	16A / 7A	-
Thermal current Ith VDE 0660 660V	25A	40A	63A	80A

Motor rating	Confirms to IEC/VDE/BS	A20	A30	A40	A60		A20	A30	A40	A60		
AC3 DOL Starting	3Phase	220V	3KW	5.5KW	7.5KW	11KW	3Phase	120V	1.5Hp	2Hp	5Hp	7.5Hp
		380 / 440V	5.5KW	5.5KW	15KW	18.5KW		240V	3Hp	5Hp	10Hp	15Hp
		500V	5.5KW	5.5KW	15KW	18.5KW		480V	5Hp	10Hp	20Hp	25Hp
		600V	5.5KW	5.5KW	15KW	18.5KW	1Phase	120V	0.5Hp	1Hp	3Hp	3Hp
AC4 DOL Starting reversing forwarding	3Phase	220V	1.5KW	2.7KW	3.7KW	5.5KW	3Phase	120V	0.5Hp	1Hp	2Hp	3Hp
		380 / 440V	3KW	5.5KW	6KW	7.5KW		240V	1Hp	2Hp	3Hp	5Hp
								480V	2Hp	5Hp	10Hp	15Hp

CAM SWITCH



VOLTMETER SWITCHES

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	IN/OUT PUT
VS 33	3 Phase 3 wire	2	V1 V2 V3		4 V1 R V2 S 5 T 7
VS 34	3 Phase 4 wire	3	V4 V5 V6		V2 B V1 Y N R

AMMETER SWITCHES

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	IN/OUT PUT
AS 33	3 Phase 3 wire 2 current transformer	2	A7 A8 A9 A10		4 R A1 T 8 5 A2 7
AS 34	3 Phase 4 wire 3 current transformer	3	A9 A10		A2 B R A1 Y N

Push Button Switch, Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch, Warning Light, Alarm

Thermocouple, Temperature Controller, Sensor

Panel Meter, Can Switch, C.T.

Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 20A

ON-OFF switches. 45°,60°,90°,switching 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A201	1 Pole	1		
A201A	2 Pole			
A202	3 Pole	2		
A202A	4 Pole			
A203	5 Pole	3		
A203A	6 Pole			
A204	7 Pole	4		
A204A	8 Pole			
A205	9 Pole	5		
A205A	10 Pole			
A206	11 Pole	6		
A206A	12 Pole			

Change over switches without OFF. 30°,45°,60°,90°,switching 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A207	1 Pole	1		
A208	2 Pole	2		
A209	3 Pole	3		
A210	4 Pole	4		
A211	5 Pole	5		
A212	6 Pole	6		

Change over switches without OFF. With electrically isolated contacts 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A213	1 Pole	1		
A214	2 Pole	2		
A215	3 Pole	3		
A216	4 Pole	4		

Change over switches with center OFF. 45°,60°,90°,switching 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A217	1 Pole	1		
A218	2 Pole	2		
A219	3 Pole	3		
A220	4 Pole	4		
A221	1 Pole	1		
A222	2 Pole	2		
A223	3 Pole	3		
A224	4 Pole	4		

Push Button Switch, Pilot Lamp
 Terminal Block
 SSR, Socket, Relay, Timer
 Limit Switch, Warning Light, Alarm
 Thermocouple, Temperature Controller, Sensor
 Panel Meter, Can Switch, C.T.
 Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator
 MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 20A



ON-OFF Power switches. 90°, 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
PS21	1 Pole	1		
PS22	2 Pole			
PS23	3 Pole	2		
PS24	4 Pole			
PS25	5 Pole	3		
PS26	6 Pole			

ON-OFF switches spring return to center 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
R201	1 Pole	1		
R201A	2 Pole			
R202	3 Pole	2		
R202A	4 Pole			
R203	5 Pole	3		
R203A	6 Pole			

Change-over swithes with spring return 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
R205	1 Pole	1		
R206	2 Pole	2		
R207	3 Pole	3		
R208	1 Pole	1		
R209	2 Pole	2		
R210	3 Pole	3		

Change-over swithes with spring return to center 20A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
R211	1 Pole	1		
R212	2 Pole	2		
R213	3 Pole	3		
R214	1 Pole	1		
R215	2 Pole	2		
R216	3 Pole	3		

Push Button Switch,
Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch,
Warning Light, Alarm

Thermocouple, Temperature
Controller, Sensor

Panel Meter,
Can Switch, C. T.

Hoist Push Button, Enclosure,
Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor,
Overload Relay

CAM SWITCH 20A, 25A



Specifications

Rated insulation voltage : 600V AC / DC

Rated current : 25A

ON / OFF Power switch 90° 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
PS251	1 Pole	1		
PS252	2 Pole			
PS253	3 Pole	2		
PS254	4 Pole			
PS255	5 Pole	3		
PS256	6 Pole			



Change-over switches without "OFF" 90° Switching 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C001	1 Pole	1		
C002	2 Pole	2		
C003	3 Pole	3		
C004	4 Pole	4		
C005	5 Pole	5		
C006	6 Pole	6		
C007	7 Pole	7		
C008	8 Pole	8		
C009	9 Pole	9		
C010	10 Pole	10		



Change-over switches without "OFF" 60° Switching

C013	1 Pole	1		
C014	2 Pole	2		
C015	3 Pole	3		
C016	4 Pole	4		
C017	5 Pole	5		
C018	6 Pole	6		
C019	7 Pole	7		
C020	8 Pole	8		
C021	9 Pole	9		
C022	10 Pole	10		



ON / OFF Switches with 90° Switching 20A, 25A

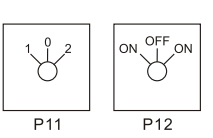
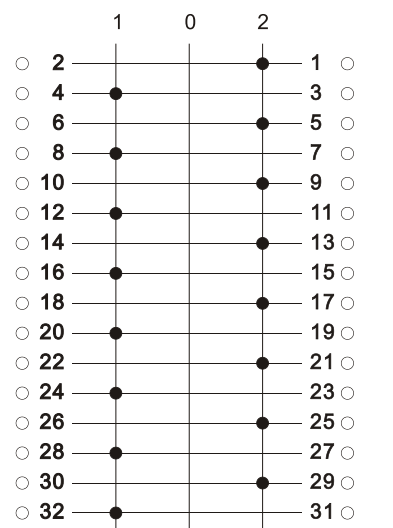
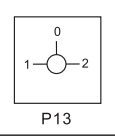
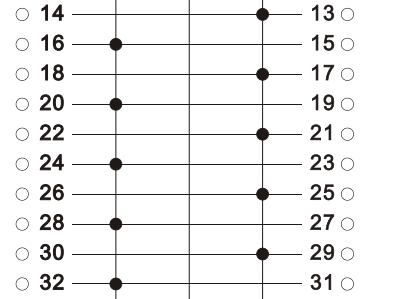
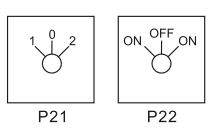

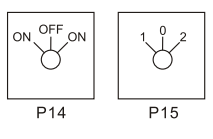
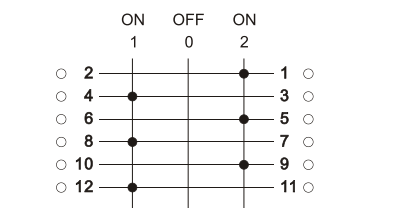
ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C025	1 Pole	1		
C026	2 Pole			
C027	3 Pole	2		
C028	4 Pole			
C029	5 Pole	3		
C030	6 Pole			
C031	7 Pole	4		
C032	8 Pole			
C033	9 Pole	5		
C034	10 Pole			
C035	11 Pole	6		
C036	12 Pole			



CAM SWITCH 20A, 25A

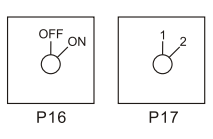
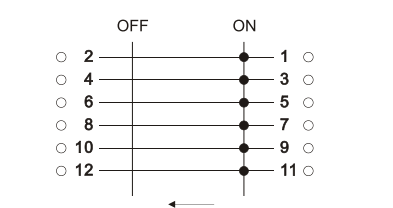
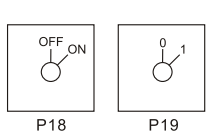
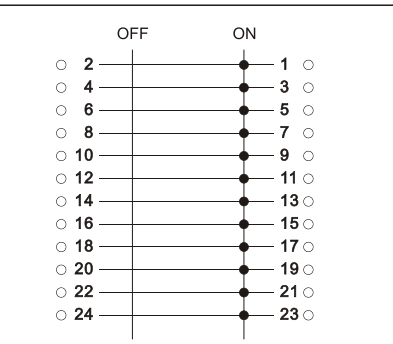


Change over switches with "OFF" 60° Switching 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C037	1 POLE	1	 <p>P11 P12</p>	<p>ON OFF ON</p> <p>1 0 2</p> 
C038	2 POLE	2		
C039	3 POLE	3		
C040	4 POLE	4		
C041	5 POLE	5		
C042	6 POLE	6		
Change-over switches with "OFF" 90° Switching 20A, 25A				
C045	1 POLE	1	 <p>P13</p>	
C046	2 POLE	2		
C047	3 POLE	3		
C048	4 POLE	4		
Change-over switches with "OFF" 45° Switching				
C068	1 POLE	1	 <p>P21 P22</p>	
C069	2 POLE	2		
C070	3 POLE	3		
C071	4 POLE	4		
Change over switches with spring return to center				
C049	1 POLE	1	 <p>P14 P15</p>	<p>ON OFF ON</p> <p>1 0 2</p> 
C050	2 POLE	2		
C051	3 POLE	3		



Change over switches with spring return 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C052	1 POLE	1	 <p>P16 P17</p>	<p>OFF ON</p> 
C053	2 POLE			
C054	3 POLE			
C055	4 POLE			
ON / OFF switches with 45° Switching 20A, 25A				
C056	1 POLE	1	 <p>P18 P19</p>	<p>OFF ON</p> 
C057	2 POLE			
C058	3 POLE			
C059	4 POLE			
C060	5 POLE			
C061	6 POLE			
C062	7 POLE			
C063	8 POLE			



Push Button Switch,
Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch,
Warning Light, Alarm

Thermocouple, Temperature
Controller, Sensor

Panel Meter,
Can Switch, C. T.

Hoist Push Button, Enclosure,
Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor,
Overload Relay

CAM SWITCH 20A, 25A



ON / OFF switches with 60° Switching

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C076	1 POLE	1		OFF 0 ON 1
C077	2 POLE			
C078	3 POLE			
C079	4 POLE	2		OFF 0 ON 1
C080	5 POLE			
C081	6 POLE	3		OFF 0 ON 1
C082	7 POLE			
C083	8 POLE	4		OFF 0 ON 1
C084	9 POLE			
C085	10 POLE	5		OFF 0 ON 1
C086	11 POLE			

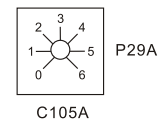
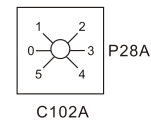


Multi-step switches with "OFF" 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM																																																																								
C087	1POLE 2STEP	1		<table border="0"> <tr> <td>○ 2</td><td>0</td><td>1</td><td>2</td><td>1</td><td>○</td> <td>○ 14</td><td>0</td><td>1</td><td>2</td><td>13</td><td>○</td> </tr> <tr> <td>○ 4</td><td></td><td></td><td></td><td>3</td><td></td> <td>○ 16</td><td></td><td></td><td></td><td>15</td><td>○</td> </tr> <tr> <td>○ 6</td><td></td><td></td><td></td><td>5</td><td></td> <td>○ 18</td><td></td><td></td><td></td><td>17</td><td>○</td> </tr> <tr> <td>○ 8</td><td></td><td></td><td></td><td>7</td><td></td> <td>○ 20</td><td></td><td></td><td></td><td>19</td><td>○</td> </tr> <tr> <td>○ 10</td><td></td><td></td><td></td><td>9</td><td></td> <td>○ 22</td><td></td><td></td><td></td><td>21</td><td>○</td> </tr> <tr> <td>○ 12</td><td></td><td></td><td></td><td>11</td><td></td> <td>○ 24</td><td></td><td></td><td></td><td>23</td><td>○</td> </tr> </table> <p>1POLE - 3POLE 2STEP 4POLE - 6POLE 2STEP</p>	○ 2	0	1	2	1	○	○ 14	0	1	2	13	○	○ 4				3		○ 16				15	○	○ 6				5		○ 18				17	○	○ 8				7		○ 20				19	○	○ 10				9		○ 22				21	○	○ 12				11		○ 24				23	○
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C088	2POLE 2STEP	2																																																																										
C089	3POLE 2STEP	3																																																																										
C090	4POLE 2STEP	4																																																																										
C091	5POLE 2STEP	5																																																																										
C092	6POLE 2STEP	6																																																																										
C093	1POLE 3STEP	2		<table border="0"> <tr> <td>○ 2</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>○</td> </tr> <tr> <td>○ 4</td><td></td><td></td><td></td><td></td><td></td><td>3</td><td>○</td> </tr> <tr> <td>○ 6</td><td></td><td></td><td></td><td></td><td></td><td>5</td><td>○</td> </tr> <tr> <td>○ 8</td><td></td><td></td><td></td><td></td><td></td><td>7</td><td>○</td> </tr> <tr> <td>○ 10</td><td></td><td></td><td></td><td></td><td></td><td>9</td><td>○</td> </tr> <tr> <td>○ 12</td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>○</td> </tr> <tr> <td>○ 14</td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>○</td> </tr> <tr> <td>○ 16</td><td></td><td></td><td></td><td></td><td></td><td>15</td><td>○</td> </tr> </table> <p>1POLE - 2POLE 4STEP</p>	○ 2	0	1	2	3	4	1	○	○ 4						3	○	○ 6						5	○	○ 8						7	○	○ 10						9	○	○ 12						11	○	○ 14						13	○	○ 16						15	○								
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C094	2POLE 3STEP	3																																																																										
C095	3POLE 3STEP	5																																																																										
C096	4POLE 3STEP	6																																																																										
C097	5POLE 3STEP	8																																																																										



ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM																																																																																																
C098	1POLE 4STEP	2		<table border="0"> <tr> <td>○ 2</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>1</td><td>○</td> </tr> <tr> <td>○ 4</td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td>○</td> </tr> <tr> <td>○ 6</td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td>○</td> </tr> <tr> <td>○ 8</td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td>○</td> </tr> <tr> <td>○ 10</td><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td><td>○</td> </tr> <tr> <td>○ 12</td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>○</td> </tr> <tr> <td>○ 14</td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>○</td> </tr> <tr> <td>○ 16</td><td></td><td></td><td></td><td></td><td></td><td></td><td>15</td><td>○</td> </tr> <tr> <td>○ 18</td><td></td><td></td><td></td><td></td><td></td><td></td><td>17</td><td>○</td> </tr> <tr> <td>○ 20</td><td></td><td></td><td></td><td></td><td></td><td></td><td>19</td><td>○</td> </tr> </table> <p>1POLE - 2POLE 5STEP</p>	○ 2	0	1	2	3	4	5	1	○	○ 4							3	○	○ 6							5	○	○ 8							7	○	○ 10							9	○	○ 12							11	○	○ 14							13	○	○ 16							15	○	○ 18							17	○	○ 20							19	○						
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C0100	3POLE 4STEP	6																																																																																																		
C0101	4POLE 4STEP	8																																																																																																		
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C0103	2POLE 5STEP	5																																																																																																		
C0104	3POLE 5STEP	8																																																																																																		
C0105	1POLE 6STEP	4		<table border="0"> <tr> <td>○ 2</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>1</td><td>○</td> </tr> <tr> <td>○ 4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td>○</td> </tr> <tr> <td>○ 6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td>○</td> </tr> <tr> <td>○ 8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td>○</td> </tr> <tr> <td>○ 10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td><td>○</td> </tr> <tr> <td>○ 12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>○</td> </tr> </table> <p>1POLE - 7STEP</p>	○ 2	0	1	2	3	4	5	6	7	1	○	○ 4									3	○	○ 6									5	○	○ 8									7	○	○ 10									9	○	○ 12									11	○																														
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C0106	2POLE 6STEP	7																																																																																																		
C0107	3POLE 6STEP	11																																																																																																		
C0108	1POLE 7STEP	4		<table border="0"> <tr> <td>○ 2</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>1</td><td>○</td> </tr> <tr> <td>○ 4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td>○</td> </tr> <tr> <td>○ 6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td>○</td> </tr> <tr> <td>○ 8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td>○</td> </tr> <tr> <td>○ 10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td><td>○</td> </tr> <tr> <td>○ 12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>○</td> </tr> <tr> <td>○ 14</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>○</td> </tr> <tr> <td>○ 16</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15</td><td>○</td> </tr> </table> <p>1POLE - 8STEP</p>	○ 2	0	1	2	3	4	5	6	7	8	1	○	○ 4										3	○	○ 6										5	○	○ 8										7	○	○ 10										9	○	○ 12										11	○	○ 14										13	○	○ 16										15	○
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C0109	2POLE 7STEP	8																																																																																																		
C0110	1POLE 8STEP	5																																																																																																		
C0111	1POLE 9STEP	5																																																																																																		
C0112	1POLE 10STEP	6																																																																																																		
C0113	1POLE 11STEP	6																																																																																																		



Push Button Switch, Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch, Warning Light, Alarm

Thermocouple, Temperature Controller, Sensor

Panel Meter, Can Switch, C.T.

Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 20A, 25A



Multi-step switches without "OFF" 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	
C114	1POLE 3STEP	2	<p>P32</p> <p>P33</p>	<p>1 pole - 6 pole 3 step 1 pole - 6 pole 4 step</p>	
C115	2POLE 3STEP	3			
C116	3POLE 3STEP	5			
C117	4POLE 3STEP	6			
C120	1POLE 4STEP	2			
C121	2POLE 4STEP	4			
C122	3POLE 4STEP	6			

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	
C126	1POLE 5STEP	3	<p>P34</p> <p>P35</p>		
C127	2POLE 5STEP	5			
C128	3POLE 5STEP	8			
C130	1POLE 6STEP	3			
C131	2POLE 6STEP	6			

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	
C134	1POLE 7STEP	4	<p>P36</p> <p>P37</p> <p>P38</p> <p>P39</p>		
C135	2POLE 7STEP	7			
C137	1POLE 8STEP	4			
C138	2POLE 8STEP	8			
C139	3POLE 8STEP	12			
C140	1POLE 9STEP	5			
C141	1POLE 10STEP	5			
C142	1POLE 11STEP	6			

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM	
C144	1POLE 2STEP	1	<p>P40</p>	<p>2 step 3 step</p>	
C145	2POLE 2STEP	2			
C146	3POLE 2STEP	3			
C147	4POLE 2STEP	4			
C148	5POLE 2STEP	5			

Push Button Switch, Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch, Warning Light, Alarm

Thermocouple, Temperature Controller, Sensor

Panel Meter, Can Switch, C. T.

Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 20A, 25A



Multi-step switches without "OFF" 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C149	1POLE 3STEP	2		
C150	2POLE 3STEP	3		
C151	3POLE 3STEP	5		
C152	4POLE 3STEP	6		
C153	5POLE 3STEP	8		
C154	1POLE 4STEP	2		
C155	2POLE 4STEP	4		
C156	3POLE 4STEP	6		
C157	4POLE 4STEP	8		
C158	1POLE 5STEP	3		
C159	2POLE 5STEP	5		
C160	3POLE 5STEP	8		
C161	1POLE 6STEP	4		
C162	2POLE 6STEP	7		
C163	3POLE 6STEP	11		
C164	1POLE 7STEP	4		
C165	2POLE 7STEP	8		
C166	4POLE 8STEP	5		
C167	4POLE 9STEP	5		
C168	4POLE 10STEP	6		



Multi-step switches without "OFF" 20A, 25A

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C170	2 POLE	3	FOR OFF REV P49	FOR OFF REV 5 R 6 S
C171	3 POLE	4	1 0 2 P50	FOR OFF REV R U S V T W



ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
C172	2 SPEED	3	VOLTMETER OFF BR RY YB V2	LOW OFF HIGH 1 R 4 S 3 T 5 6
C173	4 pole - 8 pole speed control and reversing control	7	LOF HIF P50 HIR LOR	1 0 1 0 2 0 1 0 2 R 4 S 2 3 5 T 6
			LOF HIF P51 HIR LOR	



CAM SWITCH 20A, 25A



Voltmeter switches

ITME NO.	STAGE	NAME PLATE	CONNECTING DIAGRAM
C174	3	 P53 P54	
C175	4	 P55 P56	
C176	4	 P57 P58	



Ammeter switches

ITME NO.	STAGE	NAME PLATE	CONNECTING DIAGRAM
C177	3	 P59 P60	
C178	4	 P61 P62	
C179	4	 P63	



STAR-DELTA SWITCH

ITME NO.	STAGE	NAME PLATE	CONNECTING DIAGRAM
C180	4		



Push Button Switch, Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch, Warning Light, Alarm

Thermocouple, Temperature Controller, Sensor

Panel Meter, Can Switch, C. T.

Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 32A

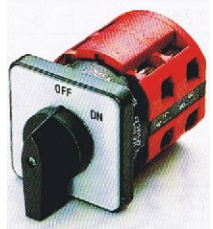
ON-OFF Power switches. 90°, 32A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
PS31	1 Pole	1		
PS32	2 Pole			
PS33	3 Pole	2		
PS34	4 Pole			
PS35	5 Pole	3		
PS36	6 Pole			



ON-OFF switches. 60°,90° switching 32A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A301	1 Pole	1		
A301A	2 Pole			
A302	3 Pole	2		
A302A	4 Pole			
A303	5 Pole	3		
A303A	6 Pole			
A304	7 Pole	4		
A304A	8 Pole			



Change over switches without OFF. 60°,90° switching 32A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A307	1 Pole	1		
A308	2 Pole			
A309	3 Pole	3		
A310	4 Pole			



Change over switches without OFF. With electrically isolated contacts 32A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A313	1 Pole	1		
A314	2 Pole			
A315	3 Pole	3		
A316	4 Pole			



Change over switches with center OFF. 60°,90° switching 32A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A317	1 Pole	1		
A318	2 Pole			
A319	3 Pole	3		
A320	4 Pole			
A321	1 Pole	1		
A322	2 Pole			
A323	3 Pole	3		
A324	4 Pole			



CAM SWITCH 63A



ON-OFF Power switches. 90°, 63A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
PS61	1 Pole	1		
PS62	2 Pole			
PS63	3 Pole			
PS64	4 Pole			

ON-OFF switches. 60°,90° switching 63A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A601	1 Pole	1		
A601A	2 Pole			
A602	3 Pole	2		
A602A	4 Pole			
A603	5 Pole	3		
A603A	6 Pole			
A604	7 Pole	4		
A604A	8 Pole			

Change over switches without OFF. 60°,90° switching 63A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A607	1 Pole	1		
A608	2 Pole			
A609	3 Pole	3		
A610	4 Pole			

Change over switches without OFF. With electrically isolated contacts 63A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A613	1 Pole	1		
A614	2 Pole			
A615	3 Pole			
A616	4 Pole			

Change over switches with center OFF. 60°,90° 63A

ITEM NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A617	1 Pole	1		
A618	2 Pole			
A619	3 Pole	2		
A620	4 Pole			
A621	1 Pole	1		
A622	2 Pole			
A623	3 Pole			
A624	4 Pole			

Push Button Switch, Pilot Lamp

Terminal Block

SSR, Socket, Relay, Timer

Limit Switch, Warning Light, Alarm

Thermocouple, Temperature Controller, Sensor

Panel Meter, Can Switch, C.T.

Hoist Push Button, Enclosure, Fan, Lock, Bus Bar Insulator

MCCB, Magnetic Contactor, Overload Relay

CAM SWITCH 100A



ON-OFF Switches with 60° switching

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A100	1 Pole	1		
A100A	2 Pole			
A101	3 Pole	2		
A101A	4 Pole			
A102	5 Pole	3		
A102A	6 Pole			
A103	7 Pole	4		
A103A	8 Pole			



Change over switches without OFF 60° switching

ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A104	1 Pole	1		
A105	2 Pole	2		
A106	3 Pole	3		
A107	4 Pole	4		



Change over switches with center OFF 60° switching

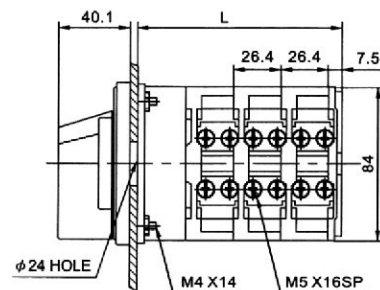
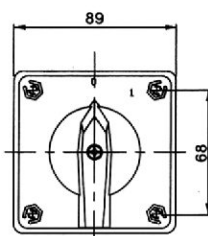
ITME NO.	FUNCTION	STAGE	NAME PLATE	CONNECTING DIAGRAM
A108	1 Pole	1		
A109	2 Pole	2		
A110	3 Pole	3		
A111	4 Pole	4		



Dimensions for 100A frame F5

Unit:mm

Total No. of stage	1	2	3	4
Length L	60.7	87.10	113.5	139.90

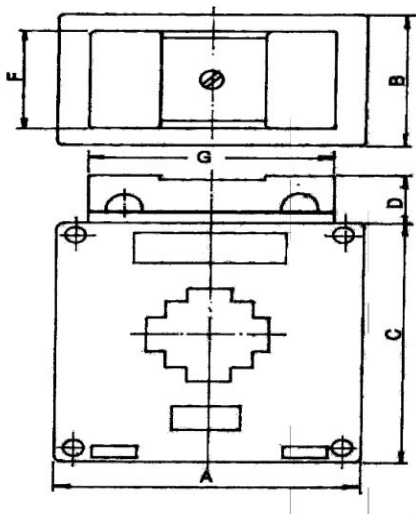


CURRENT TRANSFORMER



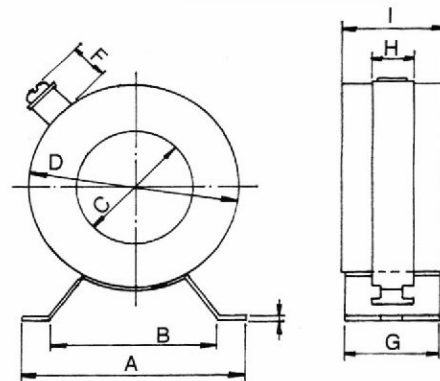
- ABS plastic case, to tally enclosed, built in cover, and several ampere outputs at secondary side.
- Iron plate for fixing metal housing - 2 pieces - 1.
- Iron bar and screw for fixing copper bus - 3 pieces.
- White or unicolor paper board box for packing.

Dimension Unit:mm



ITME NO.	A	B	C	D	E	F
MFO-30CT	75	43	82	17	60	31
MFO-40CT	75	43	82	17	60	31
MFO-60CT	101	45	110	17	60	31
MFO-100CT	145	45	139	17	60	31

ITME NO.	RATED CURRENT(A) PRIMARY/SECONDARY	WINDOW DIMENSION	RATY PCOAD (VA)	ACCURACY CLASS	RATED VOLTAGE
MFO-30CT	30/5A - 500/5A	30 x 10mm	2.5	1.0	600V
MFO-40CT	30/5A - 500/5A	40 x 10mm	5	1.0	600V
MFO-60CT	400/5A - 800/5A	60 x 20mm	10	1.0	600V
MFO-100CT	800/5A - 3000/5A	100 x 10mm	15	1.0	600V



P.P. Case

White or unicolor paper soard box for 1-Piece packing (Instruction manual is attached).

Dimension Unit:mm

ITME NO.	RATED CURRENT Rating (Amp)	SEC(A) Current	RATY (VA)	ACCURACY	RATED Strength
CO-25CT	10/5A - 300/5A	5	2	3.0	40
CO-32CT	10/5A - 400/5A	5	15	1.0	40
CO-58CT	400/5A - 800/5A	5	15	1.0	40
CO-90CT	800/5A - 1200/5A	5	15	1.0	40
CO-110CT	1000/5A - 2500/5A	5	15	1.0	40
CO-130CT	2000/5A - 9500/5A	5	15	1.0	40

ITME NO.	A	B	C	D	E	F	G	H	I
CO-25CT	75	55	32	65	1.2	11	28	13	30
CO-32CT	90	44	35	78	2	13	45	25	53.5
CO-58CT	103	44	60	102	2	13	45	25	54.5
CO-90CT	103	60	90	135	2	13	45	25	55.5
CO-110CT	103	60	110	151	2	13	45	25	55.5
CO-130CT	103	60	128	183	2	13	45	25	60