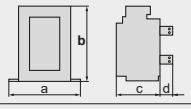
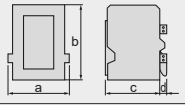
DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S,

Electrical Characteristics to IEC 609647-1, IEC 60947-2

Type				AR325S		AR332S	
Series				Standard		Standard	
AMPERE RATING(A)				2500		3200	
RATED CURRENT (max) [I_n](A) ①②	JIS ⑫,IEC, EN, AS			2500		3200	
	NEMA, ANSI			2500		3200	
	Marine			2500		3200	
NEUTRAL POLE AMPERES FRAME (A)				2500		3200	
NUMBER OF POLES ③④				3	4	3	4
RATED PRIMARY CURRENT OF OVER–CURRENT RELEASE [I_{CT}](A) • for general feeder circuit use				2500		3200	
RATED CURRENT OF OVER–CURRENT RELEASE (A) • for generator protection use [I_n] is generator rated current.				$1250 \leqq I_n \leqq 2500$		$1600 \leqq I_n \leqq 3200$	
AC RATED INSULATION VOLTAGE [U_i](V. 50/60Hz)				1000		1000	
RATED OPERATIONAL VOLTAGE [U_e](V. 50/60Hz)				690		690	
AC RATED BREAKING CAP [kA sym rms) MAKING CAPACITY [kA peak]							
JIS⑫IEC, EN, AS [I_{cs}= I_{cu}]	AC	690V ⑤		65/143		65/143	
		480V		85/187 ⑥		85/187 ⑥	
		440V		85/187		85/187	
NEMA ANSI	AC	635V		50/115		50/115	
		508V		65/149.5		65/149.5	
		254V		85/195.5		85/195.5	
⑦	DC	600V ⑧		40/40		40/40	
		250V		40/40		40/40	
NK ⑨	AC	690V		65/153		65/153	
		450V		85/201 ⑥		85/201 ⑥	
LR, AB, ⑨ GL, BV	AC	690V		65/153		65/153	
		450V		85/201 ⑥		85/201 ⑥	
RATED IMPULSE WITHSTAND VOLTAGE [U_{imp}](kV)				12		12	
RATED SHORT TIME WITHSTAND CURRENT[I_{cw}][kA rms]		1s		85		85	
		3s		65		65	
LATCHING CURRENT (kA)				85		85	
TOTAL BREAKING TIME (s)				0.03		0.03	
CLOSING OPERATION TIME							
SPRING CHARGING TIME (s) max.				10		10	
CLOSE TIME (s) max.				0.08		0.08	
No. of operating cycles							
Mechanical life	with maintenance			20000		20000	
	without maintenance			10000		10000	
Electrical life	without maintenance	AC460V		7000		7000	
		AC690V		5000		5000	
Draw-Out Body (kg)		⑪		56	68	56	68
Draw-Out Chassis (kg)		⑪		49	57	49	57
Total Draw-Out Weight (kg)		⑪		105	125	105	125
Fixed (kg)		⑪		80	92	80	92
OUTLINE DIMENSION (mm)							
FIXED TYPE 		a		466	586	466	586
		b		460		460	
		c		290		290	
		d		75		75	
DRAW-OUT TYPE ⑩ 		a		460	580	460	580
		b		460		460	
		c		345		345	
		d		40		40	

① : Values in open air at 40°C (45°C for marine applications).
② : Values of AR208S, AR212S, AR216S for draw-out type with horizontal terminals, Values of the other ACBs for draw-out type with vertical terminals.
③ : For 2 pole ACBs use outside poles of 3 pole ACB.
④ : 4poles ACBs without Neutral phases protection can not apply IT earthing system.
⑤ : Contact TERASAKI for the details.
⑥ : For 500V AC.
⑦ : ARG OCRs can not be used for DC. Please contact TERASAKI for DC application.
⑧ : A special version of the ACB is required above 250V DC. Contact Terasaki for details.
⑨ : Applicable to only 3 pole ACBs.
⑩ : For vertical terminals or horizontal terminals.
⑪ : These weights are based on normal specifications with the OCR and standard accessories
⑫ : Comply with JIS C 8201-2-1 Ann.1 Ann.2

Note: When the INST trip function is set to NON, the MCR function should be enabled, otherwise, the rated breaking capacity is reduced to the rated latching current.

DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S

L-characteristic for general feeder circuits (Type AGR-11BL, 21BL, 31BL)

Specifications

Setting range of protection functions

Protection functions	Setting range
■ Adjustable long time-delay trip characteristics LT	
Pick-up current [I_R] (A)	[I_n]×(0.8 – 0.85 – 0.9 – 0.95 – 1.0 – NON) ; 6 graduations • Non tripping when load current ≦ ([I_R]×1.05). • Tripping when ([I_R]×1.05) < load current ≦ ([I_R]×1.2)
Time-delay [t_R] (s)	(0.5 – 1.25 – 2.5 – 5 – 10 – 15 – 20 – 25 – 30) at 600% of [I_R]; 9 graduations
Time-delay setting tolerance (%)	±15% +150ms – 0ms
■ Adjustable short time-delay trip characteristics ST	
Pick-up current [I_{sd}] (A)	[I_n]×(1 – 1.5 – 2 – 2.5 – 3 – 4 – 6 – 8 – 10 – NON) ; 10 graduations
Current setting tolerance (%)	±15%
Time-delay [t_{sd}] (ms) Relay time	50 / 100 / 200 / 400 / 600 / 800 ; 6 graduations
Resettable time (ms)	25 / 75 / 175 / 375 / 575 / 775
Max. total clearing time (ms)	120 / 170 / 270 / 470 / 670 / 870
■ Adjustable instantaneous trip characteristics INST or MCR (For AGR-11B, INST only)	
Pick-up current [I_i] (A)	[I_n]×(2 – 4 – 6 – 8 – 10 – 12 – 14 – 16 – NON) ; 9 graduations
Current setting tolerance (%)	±20%
■ Adjustable pre-trip alarm characteristics PTA	
Pick-up current [I_{P1}] (A)	[I_n]×(0.75 – 0.8 – 0.85 – 0.9 – 0.95 – 1.0) ; 6 graduations
Current setting tolerance (%)	±7.5%
Time-delay [t_{P1}] (s)	(5 – 10 – 15 – 20 – 40 – 60 – 80 – 120 – 160 – 200) at [I_{P1}] or more; 10 graduations
Time-delay setting tolerance (%)	±15% +100ms – 0ms
■ Adjustable ground fault trip characteristics GF	Note: Set [I_g] to 1200A or less.
Pick-up current [I_g] (A)	[I_{CT}]×(0.1 – 0.2 – 0.3 – 0.4 – 0.6 – 0.8 – 1.0 – NON) ; 8 graduations
Current setting tolerance (%)	±20%
Time-delay [t_g] (ms) Relay time	100 / 200 / 300 / 500 / 1000 / 2000 ; 6 graduations
Resettable time (ms)	75 / 175 / 275 / 475 / 975 / 1975
Max. total clearing time (ms)	170 / 270 / 370 / 570 / 1070 / 2070
Ground fault trip characteristics on line side REF (AGR-21B, 31B only)	
Pick-up current [I_{REF}] (A)	[I_{CT}]×(0.1 – 0.2 – 0.3 – 0.4 – 0.6 – 0.8 – 1.0 – NON) ; 8 graduations
current setting tolerance (%)	±20%
Time-delay (s)	Inst
■ N-phase protection characteristics NP	
Pick-up current [I_N] (A)	[I_{CT}]×(0.4 – 0.5 – 0.63 – 0.8 – 1.0) ; Factory set to a user-specified value for AGR-11BL. • Non tripping when load current ≦ ([I_N]×1.05). • Tripping when ([I_N]×1.05) < load current ≦ ([I_N]×1.2)
Time-delay [t_N] (s)	Tripping at 600% of [I_N] with LT time-delay [t_R]
Time-delay setting tolerance (%)	±15% +150ms – 0ms
■ Phase rotation protection characteristics NS (AGR-21B, 31B only)	
Pick-up current [I_{NS}] (A)	[I_n]×(0.2 – 0.3 – 0.4 – 0.5 – 0.6 – 0.7 – 0.8 – 0.9 – 1.0) ; 9 graduations
current setting tolerance (%)	±10%
Time-delay [t_{NS}] (s)	(0.4 – 0.8 – 1.2 – 1.6 – 2 – 2.4 – 2.8 – 3.2 – 3.6 – 4) at 150% of [I_{NS}] ; 10 graduations
Time-delay setting tolerance (%)	±20% +150ms – 0ms
■ Adjustable earth leakage trip characteristics ELT (AGR-31B only)	
Pick-up current [$I_{\Delta R}$] (A)	0.2 – 0.3 – 0.5 (Medium sensitivity) or 1 – 2 – 3 – 5 – 10 (Low sensitivity)
Current setting tolerance	Non operate below 70% of [$I_{\Delta R}$], Operate between 70% and 100% of [$I_{\Delta R}$].
Time-delay [$t_{\Delta R}$] (ms) Relay time	100 / 150 / 300 / 500 / 800 / 1500 / 3000 ; 7 graduations
Resettable time (ms)	50 / 100 / 250 / 450 / 750 / 1450 / 2950
Max. total clearing time (ms)	250 / 300 / 450 / 650 / 950 / 1650 / 3150
■ Undervoltage alarm characteristics UV (AGR-31B only)	
Recovery setting voltage (V)	[V_n]×(0.8 – 0.85 – 0.9 – 0.95) ; 4 graduations
Recovery voltage setting tolerance (%)	±5%
Setting voltage (V)	[V_n]×(0.4 – 0.6 – 0.8) ; 3 graduations
Voltage setting tolerance (%)	±5%
Time-delay (s)	0.1 – 0.5 – 1 – 2 – 5 – 10 – 15 – 20 – 30 – 36 ; 10 graduations
Time-delay setting tolerance (%)	±15% +100ms–0ms
■ Control power	AC100 – 120V / AC200 – 240V) Common DC100 – 125V / DC200 – 250V) Common DC24V / DC48V) Common
	Power consumption: 5 VA

__ : Default setting

DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S

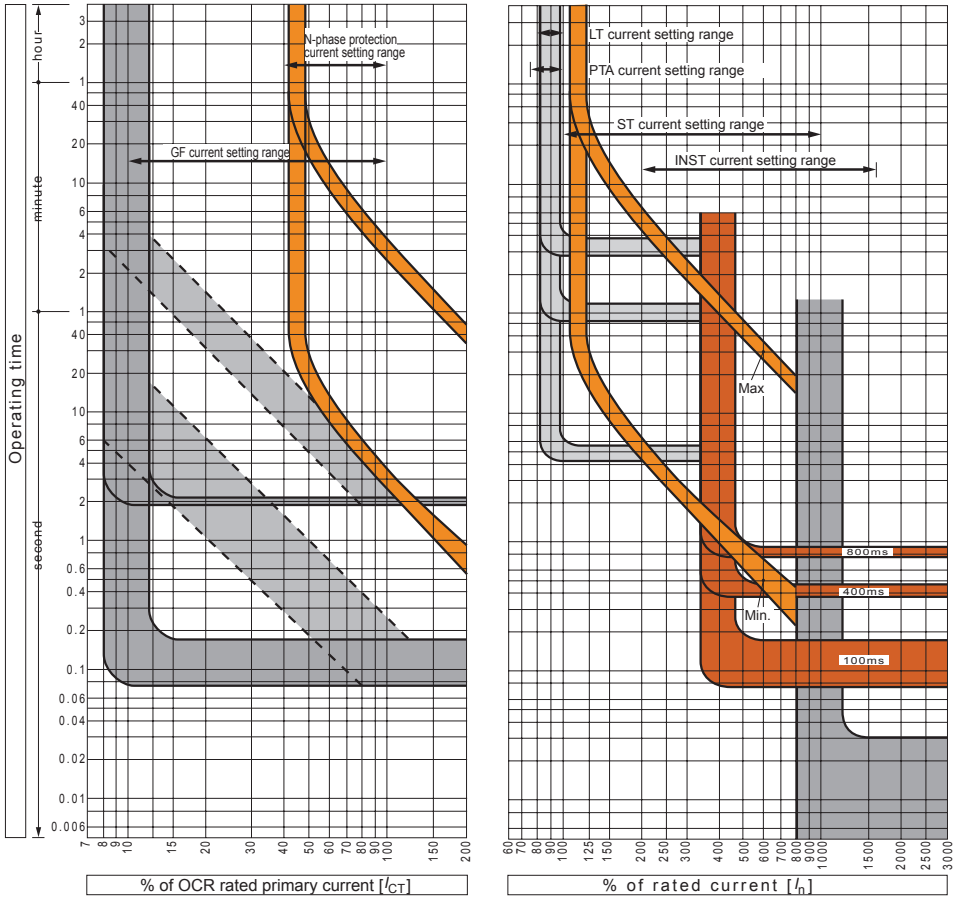
L-characteristic for general feeder circuits (Type AGR-11BL, 21BL, 31BL)

Specifications

■ Values of [I_{CT}] and [I_n]

Type	Applicable [I_{CT}] (A)	Rated current [I_n](A) [I_{CT}] ×0.5	[I_{CT}] ×0.63	[I_{CT}] ×0.8	[I_{CT}] ×1.0
AR325S	**2500**	1250	1600	2000	2500
AR332S	**3200**	1600	2000	2500	3200

PROTECTION CHARACTERISTICS



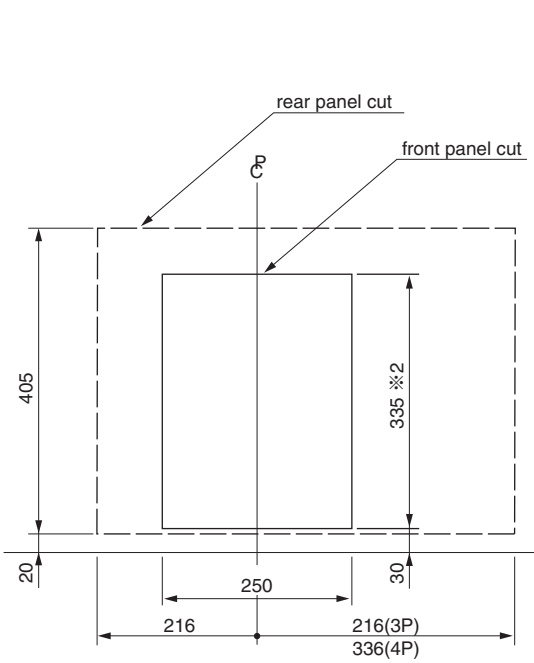
The ST trip characteristic shown in the figure applies when the ramp characteristic select switch is in the OFF position.

DATA SHEET: TEMPOWER2 ACB

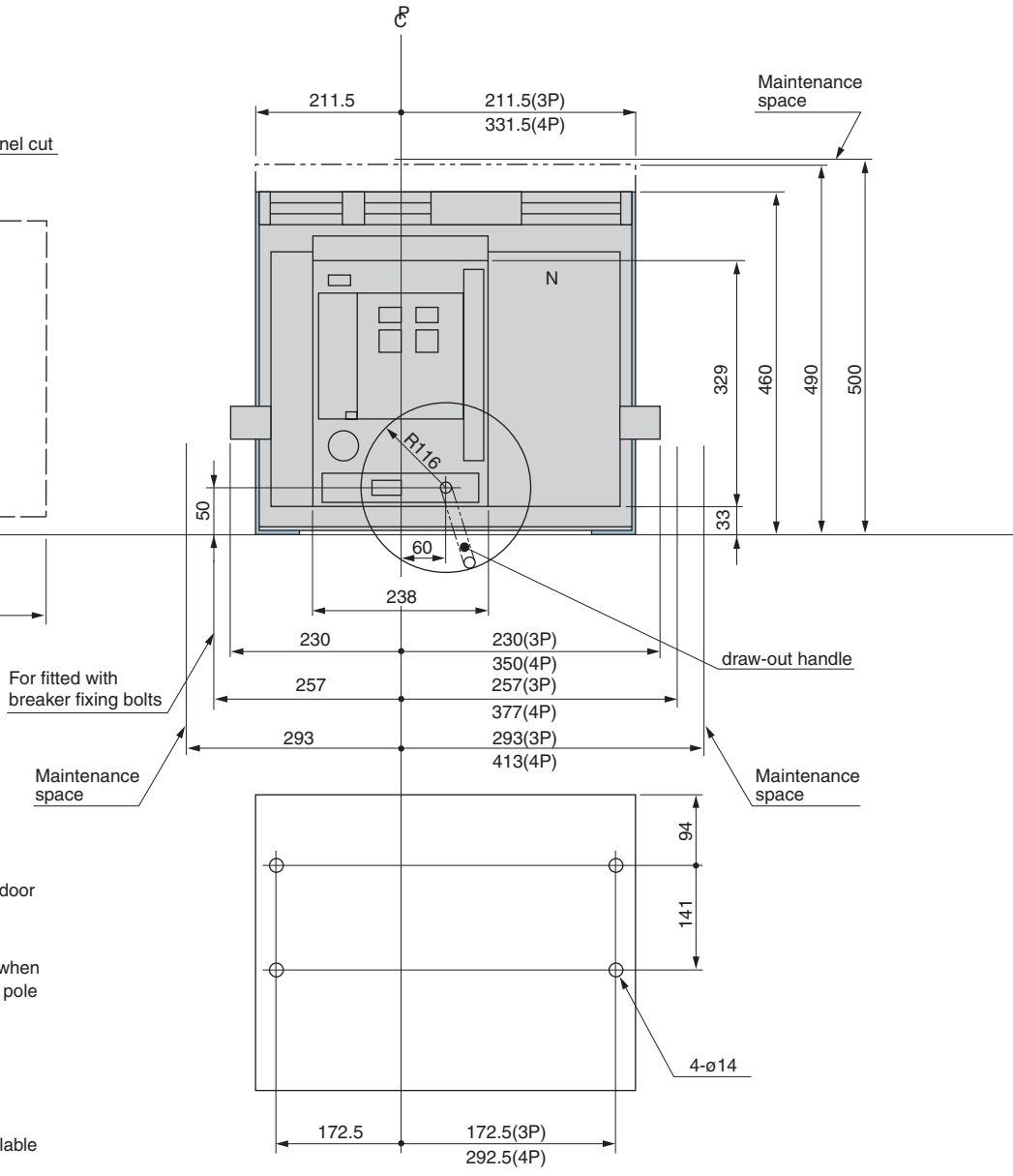
Types: AR325S, AR332S

Drawout Type Outline Dimensions

℄: ACB Front cover center line



panel cutout



Mounting holes

※1: Conductors including connecting bolts should be separated min. 7mm from Draw-out arm.

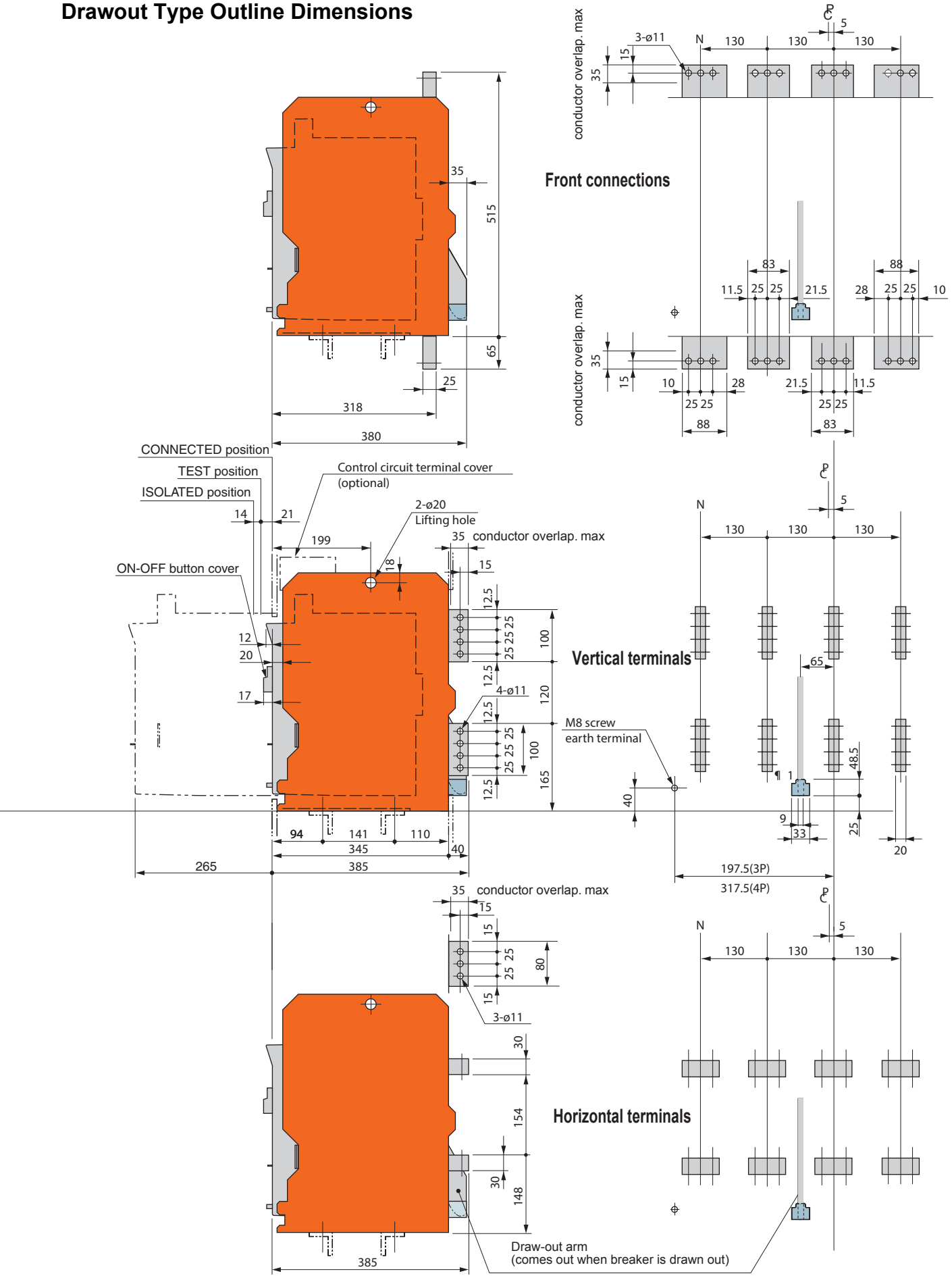
※2: Panel cut should be 339 mm not 335 mm when the door flange is used. Refer to page 41.

- N represents the neutral pole of 4-pole ACBs. The neutral pole is positioned to the right as standard when viewed from the front of the ACB. However, the neutral pole can be customized so that it is positioned to the left.
- For type AR-H high fault series, vertical terminals are standard, horizontal terminals are optional and front connections are not available.
- The vertical terminal for the main circuit with its length extended by 70 mm from the standard is specially available on request.
- For the outline drawing for the version with earth leakage tripping, contact us.

DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S

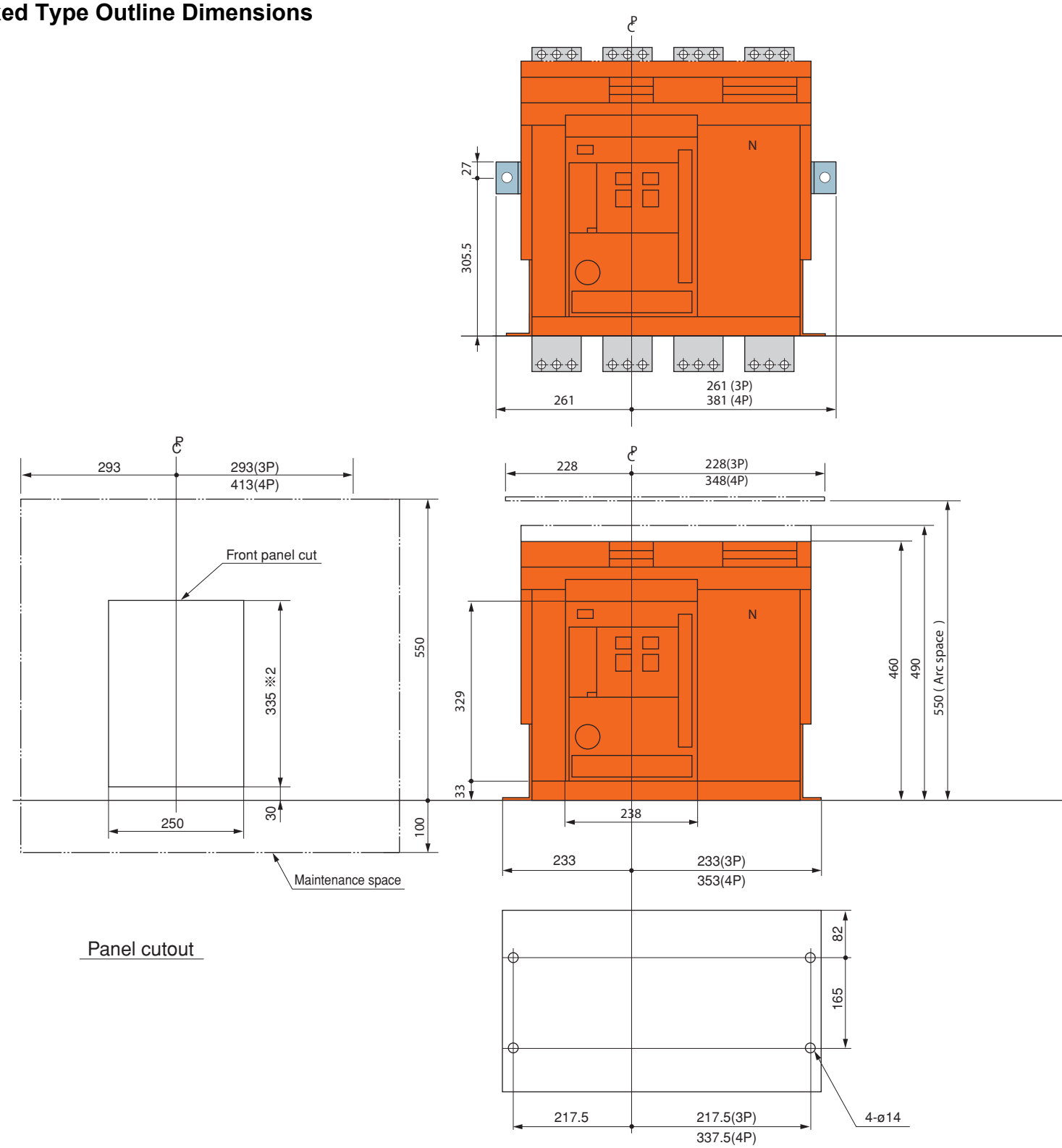
Drawout Type Outline Dimensions



DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S

Fixed Type Outline Dimensions



Panel cutout

Mounting holes

※2: Panel cut should be 339 mm not 335 mm when the door flange is used. Refer to page 41.

- N represents the neutral pole of 4-pole ACBs. The neutral pole is positioned to the right as standard when viewed from the front of the ACB. However, the neutral pole can be customized so that it is positioned to the left.
- For type AR-H high fault series, vertical terminals are standard, horizontal terminals are optional and front connections are not available.
- For the outline drawing for the version with earth leakage tripping, contact us.

DATA SHEET: TEMPOWER2 ACB

Types: AR325S, AR332S

Fixed Type Outline Dimensions