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DYNAMICS

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TERASAKI
Innovators in Protection Technology

100TH
Anniversary



Japanese design & manufacture

INNOVATIVE PROTECTION SOLUTIONS

Product Specifications that exceed industry standards

T H I N K E L E C T R I C A L

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Based in Osaka, Japan, Terasaki with over 100 years' experience is a specialist manufacturer of low voltage circuit breakers.

Terasaki is known for being the biggest 'breaker maker' in the world and in the past have produced circuit breakers for the likes of ABB, Moeller, MEM and F&G to name but a few.

The overall specifications of Terasaki Breakers far exceeds those of major competitors yet Terasaki has still managed to balance the performance versus price ratio, in that Terasaki remains competitively priced when compared to other major brands.

Terasaki circuit breakers have been independently tested by KEMA with the Elsteel Techno Modular Solution to the stringent IEC61439 standard with excellent results.

ACDC Dynamics is the perfect complement to Terasaki Breakers. With offices throughout South Africa, our extensive national stock holding of general Terasaki Circuit Breakers allows ACDC Dynamics to offer timeous deliveries thus ensuring downtime is kept to a minimum, with our shorter lead times saving our clients hundreds of thousands in hidden costs.

Isn't it time you considered 'switching' to the Terasaki product range?

It's the best technical solution money can buy!

TEMBREAK 2 MCCB's

125A Adjustable Settings



S125-NJ

Max Panel depth with VDH: 543mm

		3-Pole	S125-NJ	S125-GJ	L125-NJ
		4-Pole	S125-NJ4	S125-GJ4	L125-NJ4
Nominal Current Ratings -5 to 50°C 2000m			020A (12.5-20)	020A (12.5-20)	020A (12.5-20)
			032A (20-32)	032A (20-32)	032A (20-32)
			050A (32-50)	050A (32-50)	050A (32-50)
			063A (40-63)	063A (40-63)	063A (40-63)
			100A (63-100)	100A (63-100)	100A (63-100)
			125A (80-125)	125A (80-125)	125A (80-125)
Ratings:	Frame Size	TB2 S125			TB2 S/H/L 250
	Ui / Ue	800/690V			800/690V
	Icu/Ics 400/415V	36/30kA			200/150kA
	Icu/Ics 525V	22/22kA			65/65kA
	Icu/Ics 250VDC	25/19kA			40/40kA
Protection:	Overload	0.63-1 x In			0.63-1 x In
	Short Circuit	6-10 x In			6-10 x In

160A Tembreak 2 Lite Space Saving MCCB



		3-Pole	E160-SF	S160-SCF	S160-SF	E160-SJ	S160-SCJ	S160-SJ
		4-Pole	E160-SF4	S160-SCF4	S160-SF4	E160-SJ4	S160-SCJ4	S160-SJ4
Nominal Current Ratings -5 to 50°C 2000m			016A 063A	016A 063A	016A 063A	025A (16-25)	025A (16-25)	025A (16-25)
			020A 080A	020A 080A	020A 080A	040A (25-40)	040A (25-40)	040A (25-40)
			025A 100A	025A 100A	025A 100A	063A (40-63)	063A (40-63)	063A (40-63)
			032A 125A	032A 125A	032A 125A	080A (50-80)	080A (50-80)	080A (50-80)
			040A 160A	040A 160A	040A 160A	100A (63-100)	100A (63-100)	100A (63-100)
			050A	050A	050A	125A (80-125) 160A (100-160)	125A (80-125) 160A (100-160)	125A (80-125) 160A (100-160)
Ratings:	Frame Size	TB2 LITE 160						
	Ui / Ue	690/525V						
	Icu/Ics 400/415V	16/8kA		25/13kA	40/20kA	16/8kA	25/13kA	40/20kA
	Icu/Ics 525V	6/3kA		7.5/4kA	10/7.5kA	6/3kA	7.5/4kA	10/7.5kA
	Icu/Ics 250VDC	13/7kA		20/10kA	25/13kA	13/7kA	20/10kA	25/13kA
Protection:	Overload	Fixed	Fixed	Fixed	0.63-1 x In	0.63-1 x In	0.63-1 x In	
	Short Circuit	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	

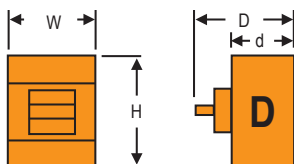
160A Adjustable Settings



S160-NJ

		3-Pole	S160-NJ	S160-GJ	L160-NJ
		4-Pole	S160-NJ4	S160-GJ4	L160-NJ4
Nominal Current Ratings -5 to 50°C 200m			160A (100-160)	160A (100-160)	160A (100-160)
Ratings:	Frame Size	TB2 S250			TB2 S/H/L 250
	Ui / Ue	800/690V			800/690V
	Icu/Ics 400/415V	36/25kA			200/150kA
	Icu/Ics 525V	25/25kA			65/65kA
	Icu/Ics 250VDC	40/40kA			40/40kA
Protection:	Overload	0.63-1 x In			0.63-1 x In
	Short Circuit	6-12 x In			6-12 x In

Frame Sizes



Frame Size	TB2 S125	TB2 LITE 160	TB2 S250	TB2 S/H/L 250
H	155mm	130mm	165mm	165mm
W-3P	90mm	75mm	105mm	105mm
W-4P	120mm	100mm	140mm	140mm
d	68mm	68mm	68mm	103mm
D	92mm	95mm	92mm	127mm

TEMBREAK 2 MCCB's

250A Tembreak 2 Lite Space Saving MCCB



	3-Pole	E250-SCF	E250-SF	S250-SF	E250-SCJ	E250-SJ	S250-SJ
	4-Pole	E250-SCF4	E250-SF4	S250-SF4	E250-SCJ4	E250-SJ4	S250-SJ4
Nominal Current Ratings -5 to 50°C 2000m		175A	175A	175A	160A (100-160)	160A (100-160)	200A (126-200)
		200A	200A	200A	200A (126-200)	200A (126-200)	250A (160-250)
		225A	225A	225A	250A (160-250)	250A (160-250)	
		250A	250A	250A			
Ratings:	Frame Size	TB2 LITE 250					
	Ui / Ue	690/525V	690/525V	690/690V	800/525V	800/525V	800/690V
	Icu/lcs 400/415V	16/8kA	25/19kA	40/20kA	16/8kA	25/19kA	40/20kA
	Icu/lcs 525V	6/3kA	7.5/6kA	10/7.5kA	6/3kA	7.5/6kA	10/7.5kA
	Icu/lcs 250VDC	13/7kA	15/12kA	25/13kA	13/7kA	15/12kA	25/13kA
Protection:	Overload	Fixed	Fixed	Fixed	0.63-1 x In	0.63-1 x In	0.63-1 x In
	Short Circuit	Fixed	Fixed	Fixed	5-11 x In	5-11 x In	5-11 x In

250A Adjustable Settings



S250-GJ

	3-Pole	S250-NJ	S250-NE	S250-GJ	L250-NJ
	4-Pole	S250-NJ4	S250-NE4	S250GJ4	L250-NJ4
Nominal Current Ratings -5 to 50°C 2000m		200A (126-200)	125A (50-125)	200A (126-200)	250A (160-250)
		250A (160-250)	160A (64-160)	250A (160-250)	
			250A (100-250)		
Ratings:	Frame Size	TB2 S250		TB2 S/H/L 250	
	Ui / Ue	800/690V	800/690V	800/690V	800/690V
	Icu/lcs 400/415V	36/36kA	36/35kA	65/36kA	200/150kA
	Icu/lcs 525V	25/25kA	25/25kA	25/25kA	65/65kA
	Icu/lcs 250VDC	40/40kA	N/A	40/40kA	40/40kA
Protection:	Overload	0.63-1 x In	Electronic	0.63-1 x In	0.63-1 x In
	Short Circuit	6-10 x In	Electronic	6-10 x In	6-10 x In

400A Adjustable Settings



S400-CJ

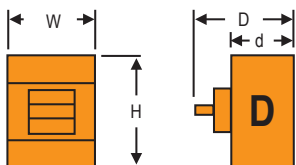
	3-Pole	E400-NJ	S400-CJ	S400-NJ	S400-NE	S400-GJ	L400-NE
	4-Pole	E400-NJ4	S400-CJ4	S400-NJ4	S400-NE4	S400-GJ4	L400-NE4
Nominal Current Ratings -5 to 50°C 2000m		400A (250-400)	400A (250-400)	400A (250-400)	400A (160-400)	400A (250-400)	400A (160-400)
Ratings:	Frame Size	TB2 E/S 630					TB2 H/L 400
	Ui / Ue	800/525V	800/690V	800/690V	800/690V	800/690V	800/690V
	Icu/lcs 400/415V	25/25kA	36k/36A	50/50kA	50/50kA	70/50kA	200/150kA
	Icu/lcs 525V	15/15kA	22/22kA	30/30kA	30/30kA	30/30kA	65/65kA
	Icu/lcs 250VDC	25/19kA	40/40kA	40/40kA	N/A	40/40kA	N/A
Protection:	Overload	0.63-1 x In	0.63-1 x In	0.63-1 x In	Electronic	0.63-1 x In	Electronic
	Short Circuit	6-12 x In	6-12 x In	6-12 x In	Electronic	6-12 x In	Electronic

630A Adjustable Settings



	3-Pole	E630-NE	S630-CE	S630-GE	E630-NE AG*
	4-Pole	E630-NE4	S630-CE4	S630-GE4	E630-NE4 APGN*
Nominal Current Ratings -5 to 50°C 2000m		630A (250-630)	630A (250-630)	630A (250-630)	630A (250-630)
Ratings:	Frame Size	TB2 E/S 630			
	Ui / Ue	800/690V	800/690V	800/690V	800/690V
	Icu/lcs 400/415V	36/36kA	50/50kA	70/50kA	36/36kA
	Icu/lcs 525V	15/15kA	30/30kA	30/30kA	15/15kA
	Icu/lcs 250VDC	N/A	N/A	N/A	N/A
Protection:	Overload	Electronic	Electronic	Electronic	Electronic
	Short Circuit	Electronic	Electronic	Electronic	Electronic

Frame Sizes



Frame Size	TB2 LITE 250	TB2 S250	TB2 S/H/L 250	TB2 E/S 630	TB2 H/L 400
H	165mm	165mm	165mm	260mm	260mm
W-3P	105mm	105mm	105mm	140mm	140mm
W-4P	140mm	140mm	140mm	185mm	185mm
d	68mm	68mm	103mm	103mm	140mm
D	95mm	92mm	127mm	145mm	182mm

TEMBREAK 2 MCCB's

800A Adjustable Settings



S800-NJ

		3-Pole	S800-CJ	S800-NJ	S800-NE	S800-RJ
		4-Pole	S800-CJ4	S800-NJ4	S800-NE4	S800-RJ4
Nominal Current Ratings	-5 to 50°C		800A (500-800)	800A (500-800)	800A (320-800)	800A (500-800)
	2000m					
Ratings:	Frame Size	TB2 1000				
	Ui / Ue	800/690V	800/690V	800/690V	800/690V	800/690V
	Icu/Ics 400/415V	36/36kA	50/50kA	50/50kA	70/50kA	70/50kA
	Icu/Ics 525V	15/15kA	30/30kA	30/30kA	45/34kA	45/34kA
	Icu/Ics 250VDC	50/50kA	50/50kA	N/A	50/50kA	50/50kA
Protection:	Overload	0.63-1 x In	0.63-1 x In	Electronic	0.63-1 x In	0.63-1 x In
	Short Circuit	5-10 x In	5-10 x In	Electronic	5-10 x In	5-10 x In

1000A Adjustable Settings



S1000-SE

Supplied with extension bars

		3-Pole	S1000-SE	S1000-NE	S1000-SE AG*	S1000-NE AG*
		4-Pole	S1000-SE4	S1000-NE4	S1000-SE4 APGNS*	S1000-NE4 APGNS*
Nominal Current Ratings	-5 to 50°C		1000A (400-1000)	1000A (400-1000)	1000A (400-1000)	1000A (400-1000)
	2000m					
Ratings:	Frame Size	TB2 1000				
	Ui / Ue	800/690V	800/690V	800/690V	800/690V	800/690V
	Icu/Ics 400/415V	50/38kA	70/50kA	50/38kA	70/50kA	70/50kA
	Icu/Ics 525V	30/23kA	45/34kA	30/23kA	45/34kA	45/34kA
	Icu/Ics 250VDC	N/A	N/A	N/A	N/A	N/A
Protection:	Overload	Electronic	Electronic	Electronic	Electronic	Electronic
	Short Circuit	Electronic	Electronic	Electronic	Electronic	Electronic

1250A Adjustable Settings



S1250-SE

Supplied with extension bars

		3-Pole	S1250-SE	S1250-NE	S1250-GE	S1250-NE AG*
		4-Pole	S1250-SE4	S1250-NE4	S1250-GE4	S1250-NE4 APGNS*
Nominal Current Ratings	-5 to 50°C		1250A (500-1250)	1250A (500-1250)	1250A (500-1250)	1250A (500-1250)
	2000m					
Ratings:	Frame Size	TB2 1250				
	Ui / Ue	800/690V	800/690V	800/690V	800/690V	800/690V
	Icu/Ics 400V	50/38kA	70/50kA	100/75kA	70/50kA	70/50kA
	Icu/Ics 525V	30/23kA	45/34kA	65/50kA	45/34kA	45/34kA
	Icu/Ics 250VDC	N/A	N/A	N/A	N/A	N/A
Protection:	Overload	Electronic	Electronic	Electronic	Electronic	Electronic
	Short Circuit	Electronic	Electronic	Electronic	Electronic	Electronic

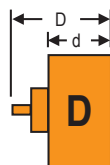
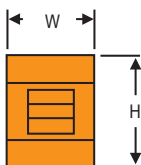
1600A Adjustable Settings



S1600-NE



		3-Pole	S1600-SE	S1600-NE	S1600-SE AG*	S1600-NE AG*
		4-Pole	S1600-SE4	S1600-NE4	S1600-SE4 APGN*	S1600-NE4 APGN*
Nominal Current Ratings	-5 to 50°C		1600A (640-1600)	1600A (640-1600)	1600A (640-1600)	1600A (640-1600)
	2000m					
Ratings:	Frame Size	TB2 1600				
	Ui / Ue	800/690V	800/690V	800/690V	800/690V	800/690V
	Icu/Ics 400V	50/38kA	100/75kA	50/38kA	100/75kA	100/75kA
	Icu/Ics 525V	30/23kA	65/50kA	30/23kA	65/50kA	65/50kA
	Icu/Ics 250VDC	N/A	N/A	N/A	N/A	N/A
Protection:	Overload	Electronic	Electronic	Electronic	Electronic	Electronic
	Short Circuit	Electronic	Electronic	Electronic	Electronic	Electronic



Frame Sizes






Frame Size	TB2 1000	TB2 1250	TB2 1600
H	273mm	370mm	370mm
W-3P	210mm	210mm	210mm
W-4P	280mm	280mm	280mm
d	103mm	120mm	140mm
D	145mm	171mm	191mm

TEMBREAK 2 DC MCCB's

			160-250A 600VDC Adjustable Thermal Fixed Magnetic Settings		600VDC Isolators		
			3-Pole	S160-SD	S250-SD	S160-SDN	S250-SDN
 S160-SD  S250-SD	Nominal Current Ratings at 50°C Supplied with Line side Terminal Covers		25A (16-25)	200A (125-200)	160A	250A	
			32A (20-32)	250A (160-250)			
			40A (25-40)				
			63A (40-63)				
			80A (50-80)				
			100A (63-100)				
			125A (80-125)				
			160A (100-160)				
Ratings:	Frame Size	TB2 LITE 160	TB2 LITE 250	TB2 LITE 160	TB2 LITE 250		
	Ui / Ue	690/600VDC	160800/600VDC	690/600VDC	800/600VDC		
	Icu/Ics 600VDC	5/5kA	5/5kA	N/A	N/A		
Protection:	Overload	0.63 -1 x In	0.63 -1 x In	N/A	N/A		
	Short Circuit	Fixed	Fixed	N/A	N/A		

			160-250A 1000VDC Adjustable Thermal Fixed Magnetic Settings		1000VDC Isolators		
			4-Pole	PVS160-SDH4	PVS250-SDH4	PVS160-SNH4	PVS250-SNH4
 PVS160-SDH  PVS250-SDH	Nominal Current Ratings at 50°C Supplied with Line & Load side Terminal Covers		50A (32-50)	200A (125-200)	160A	1000A	
			63A (40-63)	250A (160-250)			
			100A (63-100)				
			125A (80-125)				
			160A (100-160)				
		Ratings:	Frame Size	TB2 LITE 250			
Ui / Ue	1000/1000VDC		1000/1000VDC	1000/1000VDC	1000/1000VDC		
Icu/Ics 1000VDC	5/5kA		5/5kA	N/A N/A	N/A		
Protection:	Overload	0.63 -1 x In	0.63 -1 x In	N/A	N/A		
	Short Circuit	Fixed	Fixed	N/A	N/A		

			400-1000A 600VDC Adjustable Thermal Fixed Magnetic Settings			600VDC Isolators		
			3-Pole	S400-ND	S800-ND	S1000-ND	PVS400-NNL	PVS800-NNL
 S400-ND	Nominal Current Ratings at 50°C Supplied with Line side Interpole Barriers		400A (250-400)	630A (400-630)	1000A	400A	800A	
				800A (500-800)				
		Ratings:	Frame Size	TB2 E/S 630	TB2 1000		TB2 H/L 400	TB2 H/L 800
			Ui / Ue	800/600VDC	800/600VDC	800/600VDC	800/750VDC	800/750VDC
	Icu/Ics 600VDC	15/15kA	20/10kA	20/10kA	N/A	N/A		
Protection:	Overload	0.63 -1 x In	0.63 -1 x In	Fixed	N/A	N/A		
	Short Circuit	Fixed	Fixed	Fixed	N/A	N/A		

			400-1000A 1000VDC Adjustable Thermal Fixed Magnetic Settings		1000VDC Isolators		
			4-Pole	PVS400-NDH4	PVS800-NDH4	PVS400-NNH4	PVS800-NNH4
 PVS400-NDH  PVS800-NDH	Nominal Current Ratings at 50°C Supplied with Line & Load side Interpole Barriers		400A (250-400)	630A (400-630)	400A	800A	
				800A (500-800)			
		Ratings:	Frame Size	TB2 H/L 400	TB2 H/L 800	TB2 H/L 400	TB2 H/L 800
			Ui / Ue	1150/1000VDC	1150/1000VDC	1150/1000VDC	1150/1000VDC
	Icu/Ics 1000VDC	10/5kA	10/5kA	N/A	N/A		
Protection:	Overload	0.63 -1 x In	0.63 -1 x In	N/A	N/A		
	Short Circuit	Fixed	Fixed	N/A	N/A		

MCCB's WITH INTEGRATED EARTH LEAKAGE PROTECTION

125-250A Adjustable Settings With Earth Leakage



ZE125-NJ

Nominal Current Ratings
-5 to 50°C
2000m
Type A Protection



ZE125-NJ ZP

	3-Pole	ZE125-NJ*	ZS125-NJ*	ZS125-GJ*	ZE250-NJ*	ZS250-NJ*	ZS250-GJ*
	4-Pole	ZE125-NJ4	ZS125-NJ4	ZS125-GJ4	ZE250-NJ4	ZS250-NJ4	ZS250-GJ4
Nominal Current Ratings		020A (12.5-20)	020A (12.5-20)	020A (12.5-20)	160A (100-160)	160A (100-160)	160A (100-160)
		032A (20-32)	032A (20-32)	032A (20-32)	250A (160-250)	250A (160-250)	250A (160-250)
		050A (32-50)	050A (32-50)	050A (32-50)			
		063A (40-63)	063A (40-63)	063A (40-63)			
		100A (63-100)	100A (63-100)	100A (63-100)			
		125A (80-125)	125A (80-125)	125A (80-125)			

Ratings:	Frame Size	TB2 S125			TB2 S250	
Ui/Ue	525/525V	525/525V	525/525V	525/525V	525/525V	525/525V
Icu/Ics 400V	25/19kA	36/36kA	65/36kA	25/19kA	36/36kA	65/36kA
Icu/Ics 525V	8/6kA	22/22kA	25/22kA	10/7.5kA	25/25kA	25/25kA
Protection:	Earth Leakage	30mA - 3A	30mA - 3A	30mA - 3A	30mA - 3A	30mA - 3A
	ΔT (Delay)	0-700mS/NT (No Trip)	0-700mS/NT (No Trip)	0-700mS/NT (No Trip)	0-700mS/NT (No Trip)	0-700mS/NT (No Trip)
	Overload	0.63-1 x In	0.63-1 x In	0.63-1 x In	0.63-1 x In	0.63-1 x In
	Short Circuit	Fixed	Fixed	Fixed	Fixed	Fixed

* 3P Breaker are available with remote trip & alarm function. Add **ZP** to code eg: **ZS125-NJ ZP 100A**

Note: This range can only accommodate one alarm and two auxiliary contact blocks. No shunts or UVT's can be fitted. Modules with ZP Add on are 23mm wider than the standard breaker.

ISOLATORS

Tembreak 2 Isolators

100% rated Neutral, early make, late break.



	3-Pole	S160-SN	S250-SN	S125-NN	S160-NN	S250-NN
	4-Pole	S160-SN4	S250-SN4	S125-NN4	S160-NN4	S250-NN4
Nominal Current Rating		160A	250A	125A	160A	250A
Frame size		TB2 LITE 160	TB2 LITE 250	TB2 S125	TB2 S250	TB2 S250
Ui/Ue AC		690/690V	800/690V	800/690V	800/690V	800/690V
Icm		2.8kA	6kA	3.6kA	6kA	6kA

100% rated Neutral, early make, late break.



	3-Pole	S400-NN	S630-NN	S800-NN	S1000-NN	S1250-NN
	4-Pole	S400-NN4	S630-NN4	S800-NN4	S1000-NN4	S1250-NN4
Nominal Current Rating		400A	630A	800A	1000A	1250A
Frame size		TB2 E/S 630	TB2 E/S 630	TB2 1000	TB2 1000	TB2 1250
Ui/Ue AC		800/690V	800/690V	800/690V	800/690V	800/690V
Icm		9kA	9kA	17kA	17kA	32kA

TEMBREAK MINING MCCB's

125-400A Mining Breakers with Adjustable Settings



VS125-NJ

	3-Pole	VS125-NJ	VS125-NJ	VS250-NJ	VS400-NE
Nominal Current Ratings -5 to 50°C 2000m		020A (12,5-20)	050A (32-50)	160A (100-160)	400A (160-400)
		032A (20-23)	063A (40-63)	250A (160-250)	
			100A (63-100)		
For TB2 Accessories Pg 8 For TB1 Accessories see below			125A (80-125)		
Ratings:	Frame Size	TB2 S125	TB2 S125	TB2 S250	TB1 400A
	Ui / Ue	1100/1100V	1100/1100V	1100/1100V	1100/1100V
	Icu/lcs 1000V	4/4kA	6/4kA	6/4kA	18/13.5kA
Protection:	Overload	0.63 - 1 x In	0.63 - 1 x In	0.63 - 1 x In	Electronic
	Short Circuit	6-10 x In	6-10 x In	6-10 x In	Electronic



S250-NJ



S1250-SE

650-1250A Mining Breakers with Adjustable Settings

	3-Pole	VS630-NE	VS800-NE	VS800-GE	VS1250-NE
Nominal Current Ratings -5 to 50°C 2000m		630A (250-630)*	800A (320-800)*	800A (320-800)*	1250A (500-1250)*
For TB2 Accessories Pg 8 For TB1 Accessories see below					
Ratings:	Frame Size	TB1 600-800A	TB1 600-800A	TB2 1250A	TB2 1250A
	Ui / Ue	1100/1100V	1100/1100V	1100/1100V	1100/1100V
	Icu/lcs 1000V	20/15kA	20/15kA	30/20kA	30/20kA
Protection:	Overload	Electronic	Electronic	Electronic	Electronic
	Short Circuit	Electronic	Electronic	Electronic	Electronic

Auxiliary contacts (Ax)

Auxiliary = Aux
Alarm (Trip only) = Alarm



Accessories for VS400-NE | VS630-N6 | VS800-NE - Thermal Break 1

Frame Size		400A	600-800A
Aux	Alarm		
1 C/O	-	A212001004	A215001005
2 C/O	-	A212001014	A215001015
3 C/O	-	A212001024	A215001025
-	1 C/O	A212001069	A215001070
1 C/O	1 C/O	A212001041	A215001042
Rating		5A @ 250V; 3A @ 500V	

Undervoltage Trips (UVT)

Inst: 100-120VAC	U211002066	U215002067
200-240VAC	U211002074	U215002075

Other voltages available ex-indent.



500mS 100-120VAC	U211002118	U215002119
200-240VAC	U211002126	U215002127

Shunt Trips (SHT)

Other voltages available ex-indent.



100-115VAC	S211002005	S215002006
200-480VAC	S211002013	S215002014
24VDC	S212002031	S215002032

Covers

Terminal Covers 3 Pole (set of 2)	C212004016	C215004018
Interpole Barriers (set of 2)	C215004042	C215004042
Door flange	C215005160	C215005160

Mechanical Interlocks

220 - 230VAC

Rear Toggle	M211009021	M215009023
1m cable	M211009034	M215009035

Handle Mechanisms



Padlock attachment	H212011003	H215011004
Varidepth handle IP54*	-	121TEC.8465 (600A)
DAROS		
* Add Gasket 12180 to make IP65	121-45-0204-01 (800A)	121-45-0204-01 (800A)

Motor Operators


Motor Operator 230VAC	MO211008042	MO215008043
Motor Operator 24VDC	MO211008053	MO215008054

* 5% Derating @ 50°C


* 10% Derating @ 50°C

TEMBREAK2 MCCB ACCESSORIES


Auxiliary Switches (AX)

		Frame Size							
		TB2 LITE 160	TB2 LITE 250	TB2 125	TB2 250	TB2 400/630	TB2 1000	TB2 1250/1600	
	Type								
	General purpose	1 C/O	A002489	A002489	A000348	A000348	A000348	A000348	A000348
	Heavy duty	N/O	-	-	A000300	A000300	A000300	A000300	A000300
		N/C	-	-	A000317	A000317	A000317	A000317	A000317


Alarm Switches (AL)

	General purpose	1 C/O	A002557	A002557	A000744	A000744	A000744	A000744	A000744
	Right side only	1 C/O	A002564	A002564	-	-	-	-	-
	Heavy duty	N/O	-	-	A000706	A000706	A000706	A000706	A000706
		N/C	-	-	A000713	A000713	A000713	A000713	A000713


Shunt Trips (SHT)

	AC100-120V	S002649	S002649	S000904	S000904	S000904	S000904	S003905
	AC200-240V	S002656	S002656	S000911	S000911	S000911	S000911	S003912
	AC380-450V	S002663	S002663	S000928	S000928	S000928	S000928	S003929
	DC24V	S002670	S002670	S000935	S000935	S000935	S000935	S003936
	DC12V	-	-	S000973	S000973	S000973	S000973	-


Undervoltage Trips (UVT)

	Instantaneous	AC100-120V	U002779	U002779	U001208	U001208	U001208	U002304	U002304
		AC200-240V	U003554	U003554	U001215	U001215	U001215	U002311	U002311
		AC380-450V	U002793	U002793	U001222	U001222	U001222	U002328	U002328
		DC24V	U002809	U002809	U001239	U001239	U001239	U002335	U002335
	5mS Delay 800-1600A	AC100-120V	-	-	-	-	-	U003127	U003233
		AC200-240V	-	-	-	-	-	U003134	U003240

Motor Operators


	AC100-120V	-	MO905728	MO755606	MO755705	-	-	MO735332
	AC200-240V	-	-	-	-	MO756009	MO735400	MO735356
	AC230-240V	-	MO905803	MO755620	MO755729	-	-	MO735349
	DC24V / *24-48V	-	MO905841	MO755637	MO755736	MO756016*	MO735417*	MO735363
	DC48	-	MO905889	-	-	-	-	-

Mechanical Interlocks


	Slide Type Mech. Int. (*1) 3P	-	-	M033513	M033605	M033704	M033803	M035302
	Slide Type Mech. Int. (*1) 4P	-	-	M033520	M033612	M033711	M033810	M035319
	Link Type Mech. Int. Right Side (*2)	-	-	M035005	M035104	M035265	M036309	-
	Link Type Mech. Int. Left Side 3P (*2)	-	-	M035012	M035111	M035272	M036316	-
	Link Type Mech. Int. Left Side 4P (*2)	-	-	M035029	M035128	M035289	M036323	-

(*1) Order one part between two MCCBs (*2) Order one Interlock part for each MCCB


Covers & Mounting

	Terminal cover Long/Standard 3P 1Pc	C065248	C065309	C080425	C080456	C081002	C081040	C081088
	Terminal cover Long/Standard 4P 1Pc	C065255	C065316	C080432	C080463	C081019	C081057	C081095
	Terminal cover Short 3P 1Pc	-	C065286	-	-	-	-	-
	Terminal cover Short 4P 1Pc	-	C065293	-	-	-	-	-
	Terminal cover Wide 3P 1Pc	-	-	-	-	C081347	-	-
	Terminal cover Wide 4P 1Pc	-	-	-	-	C080814	-	-
	Terminal cover Long 3P H/L 1Pc	-	-	-	C080654	-	-	-
	Terminal cover Long 4P H/L 1Pc	-	-	-	C080661	-	-	-
	Interpole barriers 1Pc	C065682	C065729	C043062	C043161	C043338	C043338	C043338
	Interpole barriers H/L 1Pc	-	-	-	C043260	-	-	-
	Door Flange	-	C044908	C044908	C044908	C045400	-	C211005161
	DIN rail Adapter	D066900	-	-	-	-	-	-

Extension Bars

	Straight Bar 3P	EB061486	EB061608	E010026	E010408	E010415	E010439	E067952
	Straight Bar 4P	EB061493	EB061615	E010040	E010163	E010422	E010446	E067969
	Offset Bar 3P	EB066948	EB061622	-	E010149	E010323	-	-
	Offset Bar 4P	EB066955	EB061639	-	-	E010330	-	-

External Operating Handles

	Door Mount IP55	H067174	H066344	H060601	H060687	H060922	H061240	H061325
	Door Mount IP65	H067198	H066382	H060649	H060724	H060960	H061288	H061363
	Breaker Mount Handle	H906053*	H907012*	H725623	H726347	H727061	H027062	H027543
	Daros Handle IP45	120-45-0110-01	120-45-0110-02	120-45-0200-01	120-45-0110-02	121-45-0202-01	121-45-0204-01	121-45-0206-01
	Gasket for Daros IP65	12180	12180	12180	12180	12180	12180	12180
	Handle Locks (Padlockable)	H064906	H064906	H037016	H037016	H037207	H037306	H035326
	Slide Locks + Hat Stand	-	-	TLSB-125	TLSB-250	TLSB-630	TLSB-800	-

TEMBREAK 2 LITE MCCBs AND SWITCH DISCONNECTORS

Electrical Control Using Internally Mounted Accessories
 Connection Diagrams and Terminal Numbers

Accessory	Combination symbol	Connection diagram and terminal No.	Remarks
Shunt trip device(SH)		• Without anti-burn switch	Shunt trips are continuous rating without anti-burn switches.
Undervoltage trip device (UV)		For AC/DC 	
Auxiliary switch (AX)			1pc Aux. SW installed.
			2pcs Aux. SW installed.
			4pcs Aux. SW installed.
Alarm switch (AL)			1pc Alarm. SW installed.
			2pcs Alarm. SW installed.

VALID/MAXIMUM ACCESSORY COMBINATIONS

Moulded Case Circuit Breakers

Type	Number of poles	AX Auxiliary switch	AL Alarm switch	SH Shunt trip	UV Under voltage trip	AX AL	AX SH	AX UV	AL SH	AL UV	AX AL SH	AX AL UV
S160-SCF	2											
E160-SF	3-4											
S160-SCF												
S160-SF												
S160-SJ												
S160-SCJ												
S160-SJ												
S160-SN												
E250-SCF	3-4											
E250-SF												
S250-SF												
E250-SCJ												
S250-SJ												
E250-SJ												
S250- N												

Notes:

1: The two-pole type breaker obtained by modifying a three-pole breaker by removing the conductive part of its central pole is regarded as the same as the three-pole type.

TEMBREAK 2 MCCBs AND SWITCH DISCONNECTORS

Electrical Control Using Internally Mounted Accessories
Valid Maximum Accessory Combinations

Frame Reference	TB2 S125 TB2 S250 TB2 S/H/L 250	TB2 H/L400 TB2 E/S 630	TB2 H/L 800 TB2 1000	TB2 1250 TB2 1600
	S125	E400	S800	S1250
	H125	E630	H800	S1600
	L125	S400	L800	
	VS125	S630	S1000	
	ZE125 **	H400	PVS800	
	ZS125 **	L400		
	S160	PVS400		
	H160	VE400		
	L160			
	PVS160			
	S250			
	H250			
	L250			
	VS250			
	ZE250 **			
	ZS250 **			
General Purpose Auxiliary Switch General Purpose Alarm Switch Shunt Trip				
General Purpose Auxiliary Switch General Purpose Alarm Switch Undervoltage Trip				
Heavy Duty Auxiliary Switch Heavy Duty Alarm Switch Shunt Trip				
Heavy Duty Auxiliary Switch Heavy Duty Alarm Switch Undervoltage Trip				

- Auxiliary Switch
- Alarm Switch
- Shunt Trip
- Undervoltage Trip

- General purpose and heavy duty status indication switches cannot be mixed in the same MCCB.
- It is not possible to install a shunt trip and an undervoltage trip in an MCCB as they occupy the same location. Undervoltage trips can provide remote tripping if necessary by wiring a normally closed contact or pushbutton in series with the protected supply.
- Undervoltage trips with time delays require an external time delay controller which clips to the side of the MCCB.
- ** Shunt trip and undervoltage cannot be installed in this model.

AIR CIRCUIT BREAKERS - FIXED & DRAWOUT

The TemPower2 is the world's first "Double Break" ACB, having two breaking contacts per phase. The unique pole structure means that the short time withstand rating (Icw, 1sec) is equal to the service short-circuit breaking capacity (Ics) for all models.

Icu=Ics=Icw for 1sec

TemPower2 ACBs have the world's smallest depth resulting in space saving in switchboards.

Simplified Ordering

Standard part number Includes

- Protection Relay LSI (AGR-11BL-AL)
- Dial Type-2 (LCD available on request)
- 4 AB Auxiliary Contacts
- Padlockable Mechanical Close & Open Buttons
- Mechanical Close & Open Indicators
- Mechanical Indicator for Charged/Discharged State

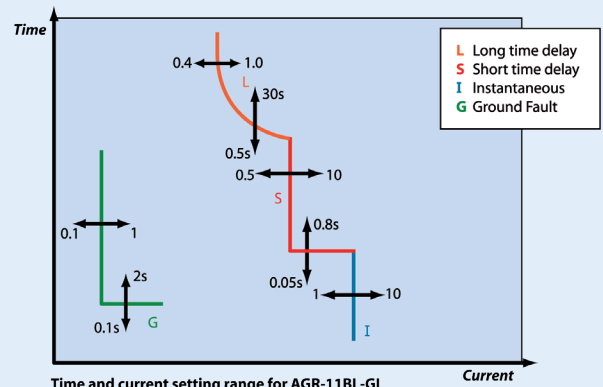
4 Pole ACBs available on request



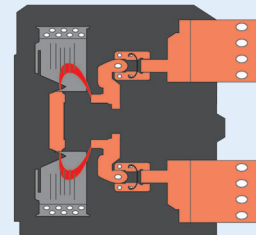
1250A

Drawout Only

- Drawout Handle
- Horizontal or Vertical Connections
- Chassis
- Safety Shutters
- Terminal Cover
- Position Indicator



Double Break Contacts



	Fixed Type		Drawout Type			
	AR 2	AR3	AR 2	AR3	AR 4	AR6
ACB Frame Size	AR 2	AR3	AR 2	AR3	AR 4	AR6
Rated Current In	1250 / 1600 / 2000A	2500 / 3200A*	1250* / 1600 / 2000A	2500 / 3200A*	4000A*	5000* / 6300A*
ACB Model 3 pole	ACDC2F312HH	ACDC3F325VV	ACDC2D312HH*	ACDC3D325VV	ACDC4D340VV	ACDC6D350VV*
-5 - 40°C	ACDC2F316*	ACDC3F332VV*	ACDC2D316HH	ACDC3D332VV*	-	ACDC6D363VV*
* Available Ex-Indent	ACDC2F320VV	-	ACDC2D320VV	-	-	-
Rated Operational Voltage Ue	690V	690V	690V	690V	690V	690V
AC Rated Insulation Voltage Ui	1000V	1000V	1000V	1000V	1000V	1000V
Ics Service Breaking Capacity 690V	50kA	65kA	50kA	65kA	85kA	85kA
(kA, symmetrical r.m.s)	440V	65kA	65kA	85kA	100kA	120kA
	400/415V	65kA	85kA	85kA	100kA	120kA
Icm Making Capacity	690V	105kA	143kA	105kA	143kA	187kA
(kA, asymmetrical peak)	440V	143kA	187kA	143kA	187kA	220kA
	400/415V	143kA	187kA	143kA	187kA	220kA
Icw Short - Time Withstand 1 sec	65kA	85kA	65kA	85kA	100kA	120kA
(kA rms)	3 sec	50kA	65kA	50kA	75kA	85kA
Times						
Total Breaking Time (sec) max	0.03	0.03	0.03	0.03	0.03	0.05
Spring Charging Time (sec) max	10	10	10	10	10	10
Closing Time (sec) max	0.08	0.08	0.08	0.08	0.08	0.08
Dimensions						
W 3 pole	360mm	466mm	354mm	460mm	460mm	799mm
H	460mm	460mm	460mm	460mm	460mm	460mm
D	290mm	345mm	345mm	345mm	380mm	380mm

Note: The Tempower 2 range of Air Circuit Breakers can be customised to meet the requirements of any application.

Available options include:

- Motor Operators and closing coils in various voltages
- Mechanical interlock kits for co-ordination of up to 3 ACB's
- A wide variety of advanced protection relays
- Shunt trips and UVTs in various voltages
- A full range of spare parts for maintenance purposes
- * Add Terminal Configuration to code: **HH** (Horizontal), **VV** (Vertical)

Accessories

Undervoltage Trips Drawout Type	Motor & Closing Coil for Automatic Charging and Closing	Key Locks	Mechanical Interlocks Kits
Shunt Trips Fixed and Drawout Type	Drawout Chassis	Vertical or Horizontal Terminals	

JOINT TESTING



CUBIC

Two independent and innovative switchgear companies have co-operated to conduct a successful type-testing programme. The **CUBIC** modular system now offers one of the world's most compact low-voltage switchboards certified up to 100kA for one second, containing Terasaki circuit breakers from 12A - 6300A . We have proven the performance of our products together with a test programme, certified by KEMA and ASTA, at fault levels 65kA , 80kA and 100kA .

Type testing documentation available on request



Ri4Power

You know you have a reliable solution for power distribution when you use superior components in a quality enclosure system.

Circuit breakers tested included:

- TemBreak 2 MCCBs with both thermal-magnetic and electronic protection.
- TemPower 2 ACBs up to 3200A , 100Ka

Terasaki and Rittal have proven the compatibility of the Ri4 Power System with TemPower 2 ACBs and TemBreak2 MCCBs with a series of tests conducted independently by ASTA



ELSTEEL UK LTD

You know you have a reliable solution for power distribution when you use superior components in a quality enclosure system.

Circuit breakers tested included:

- TemBreak 2 MCCBs with both thermal-magnetic and electronic protection.
- TemPower 2 ACBs up to 3200A , 100Ka

It is easy to build and adapt the system using the support and documentation, including test certificates, overviews of tested arrangements and design software.

Logstrup

Certification of Logstrup & Terasaki Equipment

Logstrup's "Modular System" power switchgear will be certified for use with the "TemPower" Air Circuit Breaker and "TemBreak" Moulded Case Circuit Breaker from Terasaki.

Logstrup and Terasaki tested their equipment to the IEC 61439-2/1 product standard for Low-voltage Power switchgear and control gear assemblies. A representative of DEKRA witnessed the tests. DEKRA certificates are in process and will provide verification of compliance to the standard – independently of Logstrup or Terasaki.

Logstrup Modular System configurations are available as in combination with Terasaki circuit breakers up to:

- 4000A
- IP54
- 50 degrees Celsius
- 100kA

Contact your usual Logstrup or Terasaki representative for more information or to request copies of the forthcoming certification.



RETROFIT & MAINTENANCE SERVICES & INSTALLATIONS

Often ageing switchgear may require an upgrade and maintenance to meet modern operational and safety requirements. To replace old equipment can be extremely expensive, retrofitting of circuit breakers can offer a huge saving rather than replacing all the equipment.

ACDC Dynamics provides retrofitting and maintenance services that maintain the existing copper work and steelwork, while replacing the prime functional components.

We provide complete retrofitting services of Air Circuit Breakers (ACB's) including the following:

- A detailed site survey to determine all requirements and equipment required
- Removal and complete installation of the new ACB's with solid copper busbar
- Retaining or improving fault level integrity
- On-site testing and commissioning

All of these services allow for minimal operational downtime for the plant.

Please forward your enquiries to terasaki@acdc.co.za

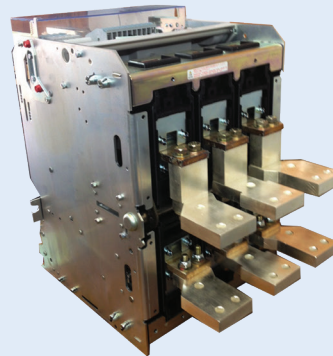
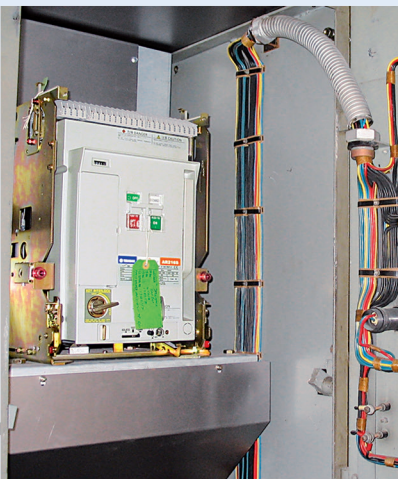
ACDC Dynamics provides the innovative **TemPower 2 "DoubleBreak"** contact solution. The innovative design eliminates any need for an intermediate flexible conductor in the moving contact assembly double arc chambers, while dissipating all arc energy within it's structure.

The internally symmetrical **"DoubleBreak"** structure means the moving contact is isolated from the supply voltage, even when the ACB is reverse connected.

The TemPower 2 Air Circuit Breakers (ACB's) product range, offers $I_{cu} = I_{cs} = I_{cw}$ (for 1 second).

This guarantees discrimination or selectivity.

RETROFIT REFERENCES



English Electric OB3 Switchgear.
Replaced by the Terasaki
AR216S 3-Pole ACB retrofit kit.

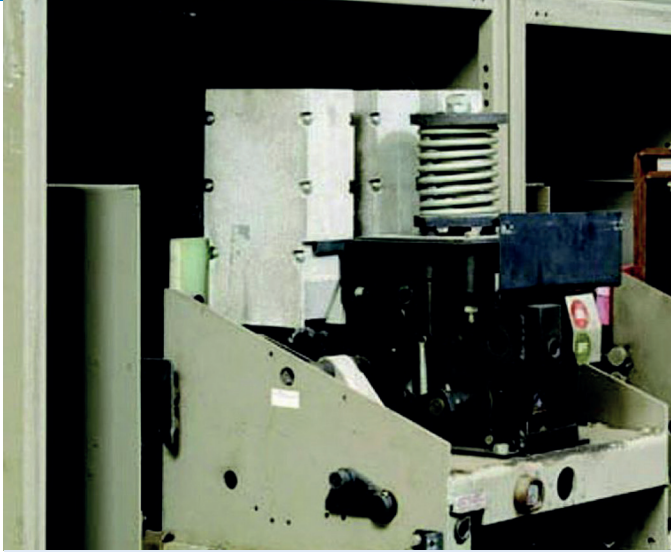
Ready to be installed

Unit Installed

The TemPower2 ACB has a compact and versatile design. It can be used to replace existing ACBs in almost any switchboard, whilst retaining original copper work and steelwork.

We have developed retrofit kits using TemPower2 which can replace ACBs by:
GEC, Mitsubishi, Ellison, Siemens, Merlin Gerin, Westinghouse, ABB & Others

RETROFIT CONCEPT



Retrofitting refers to the addition of new technology to older systems. Retrofit ACBs can replace ageing, unsafe switches and circuit breakers.

Top 5 reasons to use Retrofit

1. Improve safety and functionality

Modern circuit breakers offer safer interlocks, remote switching and circuit monitoring.

2. Optimise existing plant

Static components in a switchboard (the steelwork and busbar system) can be retained. Only the functional, moving parts (the circuit breakers) are replaced. Retrofitting is typically 80% cheaper than switchboard replacement with minimum downtime.

3. Guaranteed spares available

Terasaki guarantee spare parts availability for at least 10 years after the withdrawal from sale of a circuit breaker.

4. Modernise the protection system

Old protection relays can be removed and replaced with modern microprocessor protection which is integral to the ACB. It is then easier to interface the ACB with automatic plc controls.

5. Reduce arc flash hazard

Modern ACBs clear short-circuits much faster than older types. This means that the incident arc energy is correspondingly lower.

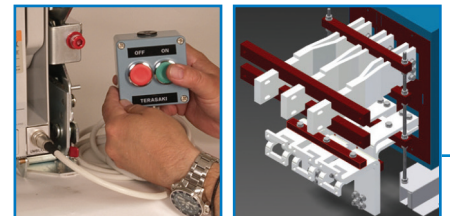
Retrofit Services

We prefer to conduct a site survey for every retrofit project - even if the breaker to be replaced is already on our design database. This ensures that the installation is as quick as possible, with minimum disruption to the client's supply.

Mechanical and electrical interfaces are modelled using state-of-the-art 3-D CAD.

Manufacture, assembly and routine testing is carried out at Terasaki's facility in Glasgow, Scotland. The factory and processes are certified to the ISO 9001 quality management standard.

Some of our Retrofit designs can be installed without a shutdown. Where this is not possible, our team will ensure that disruption is minimised.



VERIFIED

Verified Designs

Third Party Technical Report.

Tested to current standard

ASTA tested to IEC 61439 for short-circuit withstand (Icw)
GEC MPact
Ellison
English Electric

Low voltage arc hazard reduction

1. Remove switching using umbilical cord controller
2. Faster opening time reduces incident arc energy
TemPower2 ACB can be set to open a short-circuit in less than 30 milliseconds (typically at least twice as fast as the device it will replace)

Modern Protection

The AGR Protection can replace the functions of several devices in an existing switchboard to provide:

- restricted earth fault protection
- Overcurrent protection
- Data communication to BMS or SCADA
- PLC Control

We design retrofit ACBs on request. If you are interested in a brand which is not shown below we would be happy to examine it. New designs are continually added to our portfolio. Check the latest list on the Terasaki website: www.terasaki.co.uk

- | | |
|----------------|--------------------|
| • Terasaki | • Mitsubishi |
| • Ellison | • Sace |
| • GEC | • ABB |
| • Merlin Gerin | • Hyundai |
| • Siemens | • AEG |
| • Unelec | • English Electric |
| • Square D | • MEM |
| | • Klockner Moeller |



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Email: cape@acdc.co.za

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Pinetown, Kwa-Zulu Natal
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Fax: +27 31 700 4330
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