

Spec Sheet: ZFV55 (type: ZFV55SMAH1A40)

Features:

- Compact **non polarized** isolator **55A** rated up to **1500V DC**.
- **Fault-make load-break switch operation**, ideal for DC systems.
- DIN profile complete with direct mounted padlockable handle.
- Terminals rated to IP20.
- Oxidation proof contacts with up to 16mm² cable capacity.
- **Application:** PV array isolators.
- **Certification:** IEC 60947-1 & 3



Dimensions & Ratings

Free air thermal current (I_{th})	55A
Rated insulation pollution degree III (U_i)	1000V
Rated insulation pollution degree II (U_i)	1500V
Rated impulse withstand voltage (U_{imp})	8kV
Ambient temperature Enclosed	-40 to +45

Rated Operational Current DC21B*

(according to IEC 60947.3 and VDE 0660)

at 600V DC	55A
at 700V DC	55A
at 800V DC	55A
at 900V DC	55A
at 1000V DC	55A
at 1200V DC	55A
at 1500V DC	40A

Maximum Fuse (A) 125A

Rated Conditional Short-cct Current 5kA

Mechanical Endurance 10,000

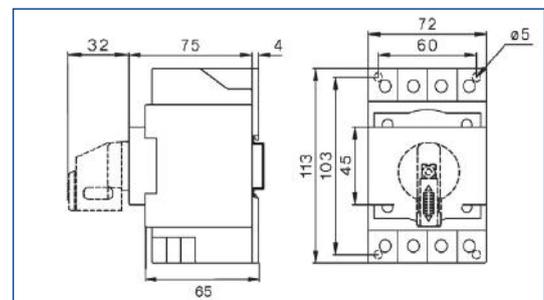
Weight 0.3kg

Connection torque 2.5 - 3Nm

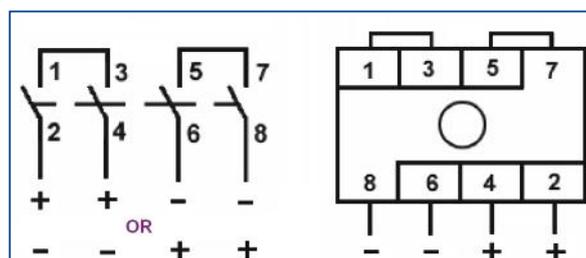
Cable Size mm² 2.5 - 16 (without

cable termination)

*(time constant 1ms resistive load + moderate overload)



CONNECTIONS



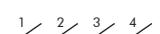
ZFV55 Series - Technical Data

Data according to IEC 60947-3 DC21B

TECHNICAL DATA



Type: ZFV55MAH1A40

Main Contacts	Type	ZFV55		
Rated thermal current I_{the}	A	55		
Rated insulation voltage U_i	V	1500		
Rated insulation voltage U_i	V	1500		
Rated impulse withstand voltage	V	6KV		
Tightening torque (M5 screw)	Nm	2.5-3.0		
Max cable size (flexible)	mm ²	16		
	U_e rated operational voltage V.d.c.	DC21A & DC21B	I_e ; DC-PV2 rated operational current A	$I_{(make)}$ and $I_{(break)}$ DC-PV2 4 x I_e A
1 Pole A1 	500V	25	25	100
	600V	20	13	52
	700V	15	10	40
	800V	10	8	32
	900V	8	6	24
	1000V	6	4	16
2 Pole In Series A2 	500V	55	55	220
	600V	55	55	220
	700V	55	55	220
	800V	45	49	196
	900V	35	35	140
	1000V	36	20	80
	1100V	-	15	60
	1200V	15	12	48
	1300V	-	10	40
	1400V	-	9	36
4 Poles In Series A4 	500V	55	55	220
	600V	55	55	220
	700V	55	55	220
	900V	55	55	220
	900V	55	55	220
	1000V	55	55	220
	1100V	-	55	220
	1200V	55	55	220
	1300V	-	50	200
	1400V	-	45	180
1500V	40	40	160	

DC21B

Notes:

For the requirements of AS 5033 2012 Appendix B, with 2 x contacts in series in Positive (+) and 2 x contacts in series in the negative (-):

900V $V_{OC ARRAY MAX}$ 4 x strings with I_{sc} max of 8.9A (before Table 4.2 of AS 5033 2014)

1000V $V_{OC ARRAY MAX}$ 3 x Strings with I_{sc} max of 8.9A (before Table 4.2 of AS 5033 2014)

1. If the series bridges are removed then the above ratings are not applicable.

2. $V_{OC ARRAY MAX} = V_{OC ARRAY} + Y_v (T_{min} \times T_{STC}) M$ (as per Clause 4.2 of AS5033 2014)

Temperature - ZFV55

In Australia, operating temperature can create onerous conditions for switchgear to operate in. Often overlooked but of extreme importance is the thermal stresses placed on switchgear due to cyclic loading, i.e. thermal current with varying loads over a 24 hour period.

Switchgear should be de-rated according to the "Fluid Environment" it is subjected to. The definition of "Fluid Environment" is the area immediately surrounding the switchgear. This environment is subject to change as equipment and installations vary but the derating in each case must be considered to ensure a reliable network design.

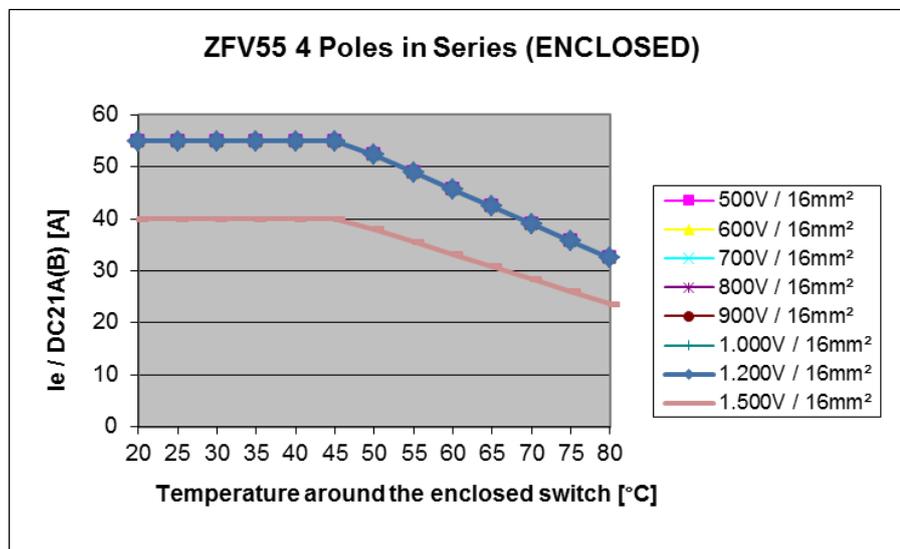
Ratings

ZFV55 4P	[°C]	20	25	30	35	40	45	50	55	60	65	70	75	80
500V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
600V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
700V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
800V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
900V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
1.000V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
1.200V / 16mm ²	[A]	55	55	55	55	55	55	52	49	46	42	39	36	32
1.500V / 16mm ²	[A]	40	40	40	40	40	40	38	36	33	31	28	26	24

Note: Enclosed rating, enclosure size is 240mm x 160mm x 120mm.



ZFV55
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Fluid Environment

