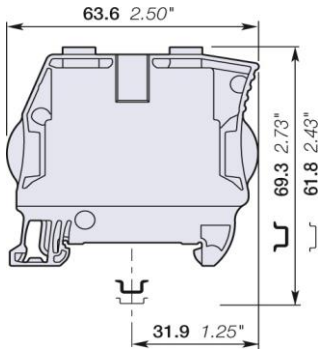
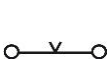
ZS50 Screw Clamp Terminal Blocks
Feed-through

Combine high performance with compact dimensions:
- Connect conductors up to 50 mm² (CB certified) 0 AWG in just 16 mm 0.630 in spacing,
- Perfectly adapted to solar applications: 1250 V DC (1000 V AC) IEC and 1000 V UL,
- Closed terminal block: no end section needed, optmized rigidity.



3D CAD outline drawings available on "Control Product 3D" portal



50 mm²
0 AWG

16 mm *0.630 in* **Spacing**

Ordering Details

Color	Type	Order Code	EAN Code	Pack[ing]	Weight (1 pce) g
Grey	ZS50	1SNK516011R0000	3472595160112	20	52,9
Blue	ZS50-BL	1SNK516021R0000	3472595160211	20	52,9
Yellow	ZS50-YL	1SNK516060R0000	3472595160600	20	52,9

Declarations and Certificates

CE	CB	RoHS	USR			EAC Ex	ATEX	IECEx	
BR-Ex e II	Haz Loc	BV		DNV		ATEX Declaration			

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Declarations and Certificates

	CE	1SND225100U10*
	CB	1SND161103A02*
RoHS	RoHS	1SND230491F02*
	USR	1SND161041A02*
	CSA	1SND161070A02*
	EAC Ex	
	ATEX	1SND162004A17*
	IECEx	1SND162005A17*
	BR-Ex e II	1SND161042A02*
	USR Haz Loc	1SND161047A02*
	BV	1SND161073A02*
	DNV	1SND161087A02*
Atex Declaration	Atex Declaration	1SND225085C10*

Explosive Atmosphere: ATEX Classification

Group Category	Protection Method
IM2 II 2 GD Ex eb I/II/IIIC	Ex e: increased security
In the presence of explosive dust atmosphere, terminal blocks are to be installed in certified enclosure II 2D	

General Information

The following information must be strictly adhered to in order to guarantee the terminal block electrical, mechanical and environmental performance.

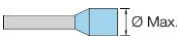
Protection	IEC 60947-1	IP10		*NEMA 1*				
Rail		TH 35-7.5, TH 35-15						
Wire stripping length		17 mm	*0.669 in*					

		Screw clamp		Screw rail contact (Maximum value)		Disconnect device		
Operating tool		Flat screwdriver						
		6.5 mm	*0.256 in*					
Torque		3 N.m	*26,6 N.m*					
		± 0.50 N.m	*± 4.43 N.m*					

Material Specifications

Insulating material		Polyamide
CTI		1000 V
Flammability	UL94	V0
	NF F 16101	I2F2
	Needle flame test IEC 60615-11-5	Compliant

Connecting capacity per clamp

		Screw clamp			
1 Rigid - Solid / Stranded conductor	Norme	IEC60947-7-1	UL1059		
	Value	1 … 50 mm²	18 … 0 AWG		
1 Flexible conductor	Norme	IEC60947-7-1			
	Value	1 … 50 mm²			
1 Flexible conductor with non insulated ferrule	Norme	Manufacturer data	Manufacturer data		
	Value	1 … 50 mm²	18 … 0 AWG		
1 Flexible conductor with insulated ferrule	Norme	Manufacturer data	Manufacturer data		
	Value	1 … 50 mm²	18 … 0 AWG		
Gauge		Dia.11			
		IEC 60947-1			
Ferrule maximum outer diameter or conductor insulation maximum outer diameter			Manufacturer data	15.7 mm	

The "Connecting capacity with ferrule" data is guaranteed with ABB crimping tool PS-3 (crimping capacity up to 10 mm²).

Multi Connecting capacity per clamp

2 Rigid - Solid / Stranded conductors	Norme	IEC60947-7-1	UL1059		
	Value	1 … 25 mm²	18 … 4 AWG		
2 Flexible conductors	Norme	IEC60947-7-1			
	Value	1 … 25 mm²			
2 Flexible conductors with twin ferrule	Norme	Manufacturer data	Manufacturer data		
	Value	1 … 16 mm²	18 … 4 AWG		

Don't mix **solid and flexible** conductors **in the same clamp**

Don't mix **solid or flexible** conductors of different sizes **in the same clamp**

The "Connecting capacity with ferrule" data is guaranteed with ABB crimping tool PS-3 (crimping capacity up to 10 mm²)

Cross section

Rated cross section	IEC60947-7-1	50 mm²	UL1059	0 AWG
Maximum Cross section	Manufacturer data	50 mm²	Manufacturer data	*0 AWG*

Electrical characteristics

Current

Rated current			IEC60947-7-1	150 A
	Field and factory wiring Cat.2		UL 1059	140 A
	Factory wiring Cat.1		UL 1059	
			CSA-C-22.2 n°158	140 A
Maximum Exe current			IEC/EN 60079-7	150 A
Rated short-time withstand current 1 s (Icw)			IEC60947-7-1	6000 A
Short-time withstand current		0.5 s	Manufacturer data	
		5 s	Manufacturer data	
		10 s	Manufacturer data	
		30 s	Manufacturer data	
		1 min	Manufacturer data	
Rated short-circuit withstand current			UL 1059	
Max. current (45° temperature increase) / Max. cross section (mm²)			Manufacturer data	150 A / 50 mm²
Maximum short circuit current (1s)			Manufacturer data	6000 A

Short Circuit Current Rating (SCCR) SA UL 1059 supplement

SCCR		UL 1059	100 kA
With the following configurations:			
	Suitable conductor wire range		10 … 0 AWG
	Maximum voltage		600 V
	Fuse class / Max. amp. Rating	J	250 A
		T	250 A
		RK1	200 A
		RK5	100 A
		G	60 A
		CC	30 A

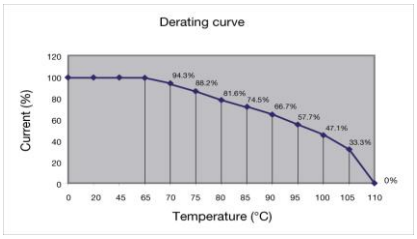
Voltage

Rated voltage	IEC 60947-1	1000 V
Rated voltage	UL 1059	1000 V
Use Group	UL 1059	E
Rated voltage	CSA-C-22.2 n°158	1000 V
Rated voltage Ex e	IEC/ EN 60079-7	880 V
Rated impulse withstand voltage	IEC 60947-1	8000 V
Dielectric test voltage	IEC 60947-1	2200 V
Pollution degree	IEC 60947-1	3
Overvoltage category	IEC 60947-1	III

Temperature range

Ambient temperature min/max	Storage	-55 ... +110 °C	*-67 ... +230 °F*
	Installing	-5 ... +40 °C	*+23 ... +104 °F*
	Service	-55 ... +110 °C	*-67 ... +230 °F*

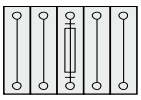
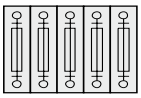
Current Derating curve for continuous service temperature



Dissipated power

Maximum dissipated power at rated current	IEC 60947-1	4,8 W
Maximum dissipated power at maximum Exe current	IEC 60079-7	4,8 W

Rated power dissipation at an ambient temperature of 23 °C - IEC 60947-7-3

Separate arrangement / Overload and short-circuit protection		
Separate arrangement / Exclusive short-circuit protection	1 fuse and 4 feed-through blocks	
Compound arrangement / Overload and short-circuit protection		
Compound arrangement / Exclusive short-circuit protection	5 fuse blocks	

Environmental Characteristics
Additional climatic tests

Dry heat		IEC 60068-2 2	Compliant
	Conditions	Temperature	110 °C
		Duration of test	96 h
Cyclic damp heat		IEC 60068-2 30	Compliant
	Conditions	Temperature	55 °C
		Relative humidity	95 %
		Number of cycles (1 cycle = 24h)	2
Cold		IEC 60068-2 1	Compliant
	Conditions	Temperature	-55 °C
		Duration of test	96 h
Damp heat steady state		IEC 60068-2-78	Compliant
	Conditions	Temperature	40 °C
		Relative humidity	93 %
		Duration of test	96 h

Corrosion

Salt mist		IEC 60068-2 11	Compliant
	Conditions	Duration of test	96 h
		Concentration	5 %
SO2		ISO 6988	Compliant
	Conditions	Duration of test	48 h
		Concentration	0,2 dm^3
Flowing mixed gas corrosion test		IEC 60068-2 60	Compliant
	Conditions	Number of the test method	3
		Duration of test	21 j

Vibrations and shocks

Sinusoidal vibrations		IEC 60068-2-6	Compliant
	Conditions	Frequency range	5 ... 100 Hz
		Number of cycles	1
		Acceleration	7 m/s²
Functional random vibrations		IEC 61373	
Category 1 Class B 3 axes	Conditions	Duration of test	
		Frequency range	
		Acceleration	
Long life testing at increased random vibrations		IEC 61373	
Category 1 Class B 3 axes	Conditions	Duration of test	
		Frequency range	
		Acceleration	
Shock		IEC 61373	
Category 1 Class B 3 axes	Conditions	Duration of test	
		Acceleration	

ZS50 Terminal Block Accessories Compatibility

Some accessories may modify the terminal block's rating. See complete information in the accessories catalog page.

	Description	Type	Order Code	Pack(ing) pieces	Weight g (1 pce)	
1	Terminal Block Markers	**MG-CPM 13**	**1SNB041791R0612**	1680	0.273	
		MC512	**1SNK140000R0000**	22	9.00	
		MC512-YL	**1SNK140004R0000**	22	9.00	
		MC512PA	**1SNK149999R0000**	20	10.00	
		MC612	**1SNK150000R0000**	22	10.00	
		MC612-YL	**1SNK150004R0000**	22	10.00	
		MC612PA	**1SNK159999R0000**	20	11.00	
		MC812	**1SNK160000R0000**	22	10.00	
		MC812-YL	**1SNK160004R0000**	22	10.00	
		MC812PA	**1SNK169999R0000**	20	14.00	
		UMH	**1SNK900611R0000**	10	0.20	
		PROCAP8	**1SNK900613R0000**	20	1.00	
		SAT8	**1SNK900616R0000**	5	6.00	
		SAT	**1SNK900623R0000**	5	6.00	
2	Mounting Rails	**PR3.G2**	**1SNA164800R0300**	2	718.00	
		PR4	**1SNA168500R1200**	2	915.00	
		PR5	**1SNA168700R2200**	2	700	
		PR30	**1SNA173220R0500**	2	328.00	
		PR3.Z2	**1SNA174300R1700**	2	718.00	
		PR50	**1SNA178529R0400**	2	1288.00	
3	End Stops	**BAZH1**	**1SNK900102R0000**	20	24.00	
4	Tools	**PS-3**	**1SNK900650R0000**	1	380.00	
5	Jumper Bars	**JB16-2**	**1SNK916302R0000**	10	10.00	
		JB16-3	**1SNK916303R0000**	10	16.00	
		JB16-4	**1SNK916304R0000**	10	22.00	
		JB16-5	**1SNK916305R0000**	10	28.00	
		JB16-10	**1SNK916310R0000**	10	56.60	

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