

## Overview

UL standards are used in North America as well as in several other countries. This is of particular importance to European exporters of electrical switchboard assemblies and equipment for machines who export to the USA, as their products will only be accepted if they meet the relevant UL standards.

A wide range of low-voltage circuit protection devices from Siemens comply with UL standards and are therefore suitable for implementation worldwide in both IEC/EN and UL applications within the framework of their specified use.

Miniature circuit breakers certified to UL 489 permit use as an all-round solution for protection tasks in distribution boards, control cabinets and control systems to UL 508A as "branch protectors". In particular, they are also approved for the protection of electrical circuits in heating, ventilating and cooling systems (HVAC), as well as for DC applications up to 60 V/125 V.

This covers a wide range of protection tasks, in residential and non-residential buildings, as well as in industry. The tripping characteristics B, C and D to EN/IEC 60898-1 have been adapted so that they fall in the permissible tripping range according to UL 489, as well as for applications at 25 °C and 40 °C.

This means that the devices are approved for use according to both standards. The enclosure dimensions of the devices correspond to DIN format. This means that the device series are

suitable for universal use worldwide according to IEC or UL standards.

The key difference between the three device series is their application in different power supply systems.

- 5SJ4 ...-HG40: 240/120 V AC, 1-pole, "same polarity only",
- 5SJ4 ...-HG41: 240 V AC, 1-, 2- and 3-pole,
- 5SJ4 ...-HG42: 480Y/277 V AC, 1-, 2- and 3-pole.

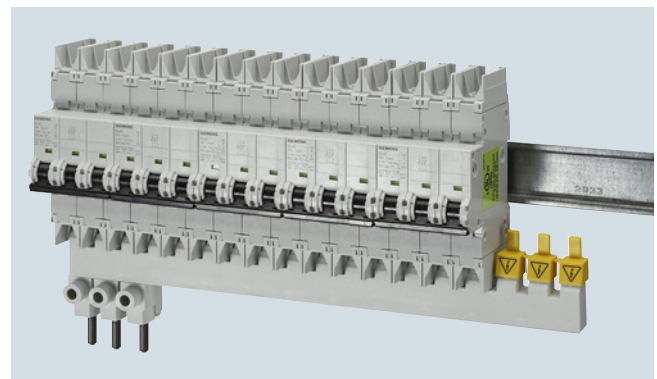
The terminals are suitable for "field wiring". This means that the devices can be installed not only in factory-built distribution boards and control cabinets, but also on-site in a customer system.

Using this mounting concept, all additional 5ST3 ...-HG components can be combined with miniature circuit breakers of the 5SJ4 ...-HG range. The auxiliary switch (AS) signals the contact position. In the event of a fault, the fault signal contact (FC) signals the automatic tripping of the miniature circuit breaker as well as the contact position. Shunt trips (ST) are used for remote tripping of miniature circuit breakers. Captive metal brackets on the additional components ensure fast mounting on the devices.

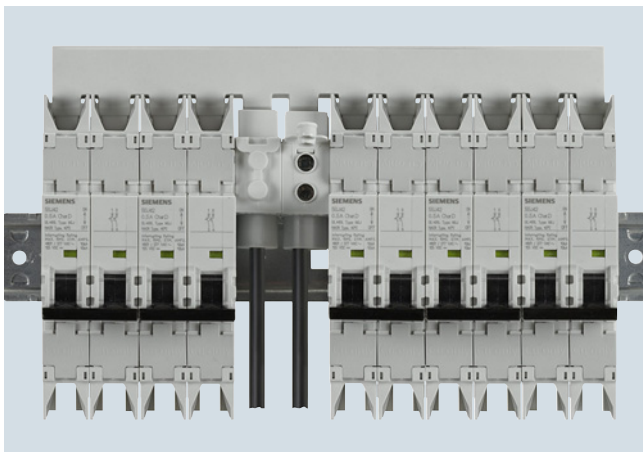
Single, two and three-phase busbars in 3 lengths with 6, 12 or 18 pins are available as accessories for all device series for "field wiring". The infeed is via connection terminals, which are available in two versions, for direct infeed at either the busbar or the miniature circuit breakers. Pins that are not required can be covered with touch protection covers.

## Benefits

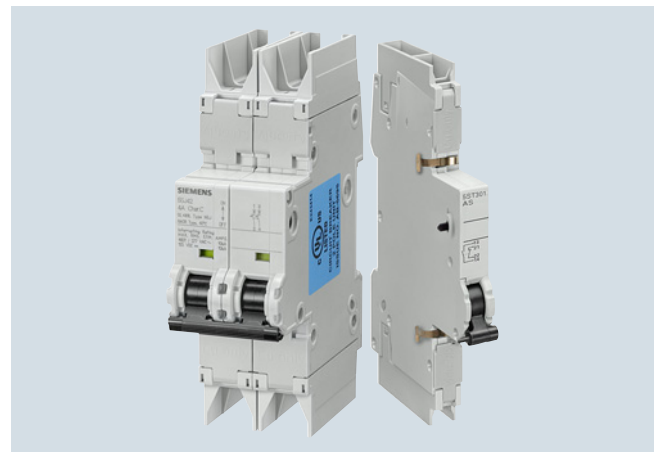
- Can be used globally for all applications in residential, non-residential and industrial buildings. This facilitates the planning of installations and enhances export opportunities
- The devices can be used according to IEC/EN 60898-1 and UL 489, which means these devices can be installed anywhere in the world
- Miniature circuit breakers with 480Y/277 V up to 40 A, with 240/120 V and 240 V up to 63 A
- Can be used for both AC voltage and DC voltage up to 125 V
- Rated making and breaking capacity up to 14 kA in acc. with UL 489 and up to 15 kA in acc. with IEC 60947-2
- Fast mounting with busbars up to 115 A and feeder terminals up to 50 mm<sup>2</sup>.



- Infeed direct at miniature circuit breaker for conductor cross-sections up to 35 mm<sup>2</sup>



- Bus mounting with central infeed directly on the busbar up to conductor cross-section of 50 mm<sup>2</sup>



- Accessories: Auxiliary switches, fault signal contacts and shunt trips up to 480 V can be easily mounted onto the miniature circuit breaker.

## Miniature Circuit Breakers

### 5SJ4 ... - .HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

#### Technical specifications

		5SJ4 ...-HG40	5SJ4 ...-HG41	5SJ4 ...-HG42
<b>Standards</b>		EN 60947-2; UL 489 (UL File E243414); UL 489A (UL File E332105); CSA C22.2 No. 5-02		
<b>Approvals</b>		<a href="http://www.siemens.com/lowvoltage/certificates">www.siemens.com/lowvoltage/certificates</a>		
<b>Tripping characteristic</b>		B, C, D	C, D	
<b>Rated voltage</b>				
• Acc. to EN 60947-2	V AC	230/400	230/400	230/400
• Acc. to UL 489 and CSA C22.2 No.5-02	V AC	240/120	240	480/277
	DC V/1P	60	60	60
	DC V/2P	--	125	125
<b>Operational voltage</b>	Min.	V AC/DC per pole	24	
• Acc. to IEC 60898-1	Max.	V DC/pole	60	
	Max.	V AC	250/440	
<b>Rated breaking capacity</b>				
• $I_{cn}$ acc. to IEC 60898-1	kA AC	10		
• $I_{cu}$ acc. to IEC 60947-2	kA AC	15		
• Acc. to UL 489/UL 489A and CSA C22.2 No. 5-02	kA AC	14/10 <sup>1)</sup>	14/10 <sup>1)</sup>	10 <sup>1)</sup>
<b>Insulation coordination</b>				
• Rated insulation voltage	V AC	250	250/440	
• Pollution degree for overvoltage category		3/III		
<b>Touch protection according to EN 50274</b>		Yes		
<b>Handle end position, sealable</b>		Yes		
<b>Degree of protection in accordance with EN 60529</b>		IP40 in the area of the handle		
<b>CFC and silicone-free</b>		Yes		
<b>Mounting</b>		On standard mounting rail		
<b>Terminals</b>	± screw (Pozidriv)	2		
• Combined terminals at both ends		Yes		
• Terminal tightening torque, only for Cu, 60/75 °C	Nm	3.5		
	lbs/in.	31		
<b>Conductor cross-sections</b>				
• Solid and stranded, acc. to UL489 and CSA C22.2 No.5-02	AWG	14 ... 4		
• Solid and stranded, according to IEC 60898-1	mm <sup>2</sup>	1.5 ... 25		
• Finely stranded, with end sleeve	mm <sup>2</sup>	1.5 ... 25		
<b>Mains connection</b>		Any		
<b>Mounting position</b>		Any		
<b>Service life, on average, with rated load</b>		20000 actuations		
<b>EMC environment</b>				
• Acc. to EN 60947-2		Suitable for environment "B" (immunity to interference not applicable)		
<b>Ambient temperature</b>	°C	-25 ... +55, max. 95 % humidity		
<b>Storage temperature</b>	°C	-40 ... +75		
<b>Resistance to climate acc. to IEC 60068-2-30</b>		6 cycles		
<b>Resistance to vibrations acc. to IEC 60068-2-6</b>	m/s <sup>2</sup>	50 at 25 ... 150 Hz and 60 at 35 Hz (4 sec)		

<sup>1)</sup> For detailed information about rated switching capacity, see Configuration Manual "Miniature Circuit Breakers" at: [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals).

## Miniature Circuit Breakers

### 5SJ4 . . . - HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

$I_n$	Mounting width MW <sup>1)</sup>	DT	Characteristic C			Characteristic D			PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
			Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU	PG	DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU				
<b>Miniature circuit breakers</b>												
<b>3P, 480Y/277 V AC</b>												
0.3	3		5SJ4314-7HG42		005	5SJ4314-8HG42		1	1 unit	005	0.465	
0.5			5SJ4305-7HG42		005	5SJ4305-8HG42		1	1 unit	005	0.529	
1			5SJ4301-7HG42		005	5SJ4301-8HG42		1	1 unit	005	0.507	
1.6			5SJ4315-7HG42		005	5SJ4315-8HG42		1	1 unit	005	0.495	
2			5SJ4302-7HG42		005	5SJ4302-8HG42		1	1 unit	005	0.511	
3			5SJ4303-7HG42		005	5SJ4303-8HG42		1	1 unit	005	0.479	
4			5SJ4304-7HG42		005	5SJ4304-8HG42		1	1 unit	005	0.469	
5			5SJ4311-7HG42		005	5SJ4311-8HG42		1	1 unit	005	0.485	
6			5SJ4306-7HG42		005	5SJ4306-8HG42		1	1 unit	005	0.491	
8			5SJ4308-7HG42		005	5SJ4308-8HG42		1	1 unit	005	0.500	
10			5SJ4310-7HG42		005	5SJ4310-8HG42		1	1 unit	005	0.497	
13			5SJ4313-7HG42		005	5SJ4313-8HG42		1	1 unit	005	0.477	
15			5SJ4318-7HG42		005	5SJ4318-8HG42		1	1 unit	005	0.465	
16			5SJ4316-7HG42		005	5SJ4316-8HG42		1	1 unit	005	0.497	
20			5SJ4320-7HG42		005	5SJ4320-8HG42		1	1 unit	005	0.498	
25			5SJ4325-7HG42		005	5SJ4325-8HG42		1	1 unit	005	0.502	
30			5SJ4330-7HG42		005	5SJ4330-8HG42		1	1 unit	005	0.514	
32			5SJ4332-7HG42		005	5SJ4332-8HG42		1	1 unit	005	0.511	
35			5SJ4335-7HG42		005	--						
40			5SJ4340-7HG42		005	--						



		Mounting width MW <sup>1)</sup>	DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
<b>Auxiliary switches (AS) acc. to UL 489</b>									
	1 NO + 1 NC	0.5		5ST3010-0HG		1	1 unit	005	0.085
	2 NO			5ST3011-0HG		1	1 unit	005	0.086
	2 NC			5ST3012-0HG		1	1 unit	005	0.064
<b>Fault signal contacts (FC) acc. to UL 489</b>									
	1 NO + 1 NC	0.5		5ST3020-0HG		1	1 unit	005	0.085
	2 NO			5ST3021-0HG		1	1 unit	005	0.085
	2 NC			5ST3022-0HG		1	1 unit	005	0.083
<b>Shunt trips (ST) acc. to UL 489</b>									
	110 ... 480 V AC	1		5ST3030-0HG		1	1 unit	005	0.117
	24 ... 60 V AC/DC		▶	5ST3031-0HG		1	1 unit	005	0.118

<sup>1)</sup> 1 MW (modular width) = 18 mm.