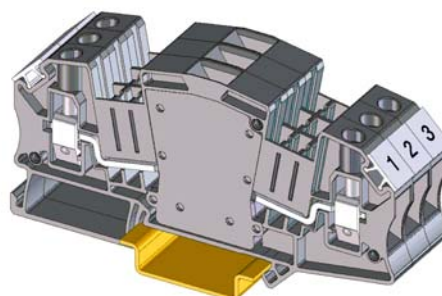


## UTME 6-MP

Test disconnect terminal



## Datasheet

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### Description

The combination of UTME 6-MP test disconnect terminal block and SMP test disconnect plug is an economic solution to test protection devices and to disconnect control and measurement equipment. The wiring is done directly from the terminals to the tested object either with or without open starpoint. The combination of UTME 6-MP test disconnect terminal and SMP test disconnect plug secures an automatic short-circuiting of the CT circuits.

The UTME 6-MP test disconnect terminals have all features of conventional current terminals.

Compared to test switches or other test socket/test plug combinations, the UTME 6-MP/SMP combinations offer efficient test facilities due to their flexible arrangements.

This datasheet is valid for all products listed in the appendix.

#### Content:

Tests: pages 2 to 9

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Dimension drawings: separate document

Connection diagrams: separate document

Test disconnect terminal	Flange cover	Test disconnect plug	Test disconnect terminal with test disconnect plug and flange cover max. tolerable skewing	
<b>Tested article</b>		<b>Test disconnect terminal</b>	<b>Flange cover</b>	<b>Test disconnect plug</b>
Product designation		UTME 6-MP	DF-UTME 6-MP	SMP 8/20
Order No.		PHO:3208414	PHO:3208469	PHO:3208443

<b>Required inscriptions in acc. with product standard</b>				
Type designation		UTME 6-MP	DF-UTME 6-MP	---

<b>General technical data</b>				
Rated insulation voltage		500 V		
Nominal current		20 A		
Maximum load current		20 A (with 10 mm <sup>2</sup> conductor cross section)		
Rated cross section		6 mm <sup>2</sup>		
Notes		max. tolerable skewing of the test disconnect plug: 3°		

### IEC 60947-7-1:2009-04 (in parts)

<b>Connection capacity</b>	
Conductor cross section, solid	0.2 mm <sup>2</sup> to 10 mm <sup>2</sup>
Conductor cross section, stranded	0.2 mm <sup>2</sup> to 10 mm <sup>2</sup>
Conductor cross section stranded, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 6 mm <sup>2</sup>
Conductor cross section stranded, with ferrule with plastic sleeve	0.25 mm <sup>2</sup> to 6 mm <sup>2</sup>
Conductor cross section stranded, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> to 4 mm <sup>2</sup>
Conductor cross section AWG/kcmil	24 to 8

2 conductors with same cross section, solid	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, with AEH without plastic sleeve	0.25 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Internal cylindrical gauge (IEC 60947-1:2004-03)	A4
Stripping length	10 mm

Clearances and creepage distances	Test disconnect terminal	Test disconnect plug
Rated impulse withstand voltage	6 kV	6 kV
Pollution degree	3	3
Surge voltage category	III	III
Insulating material group	I	I
Mains type	unearthed mains	unearthed mains
Minimum clearance case A (inhomogeneous field)	5.5 mm	5.5 mm
Shortest clearance measured between neighboring terminal blocks	9.5 mm	11.7 mm
Shortest clearance measured between terminal block and NS 35 DIN rail	7 mm	--
Shortest clearance measured isolated distance open	--	4.3 mm
Minimum value of the creepage path requirement in acc. with table	6.3 mm	6.3 mm
Shortest creepage distance measured between neighboring terminal blocks	9.5 mm	11.7 mm
Shortest creepage distance measured between terminal block and NS 35 DIN rail	7.6 mm	--
Shortest creepage distance measured isolated distance open	--	4.3 mm

Protection against electric shock	Test disconnect terminal	with test disconnect plug	only test disconnect plug
Specification	DIN EN 50274 (VDE 0660-514):2002-11		
Back of the hand protection	guaranteed	guaranteed	guaranteed
Finger protection	guaranteed	guaranteed	not guaranteed

## Impulse withstand voltage test

Result Test passed

Test voltage setpoint 7.3 kV

Surge voltage between neighboring terminal blocks/pol. 7.3 kV

Surge voltage between terminal/NS 35 DIN rail 7.3 kV

Surge voltage, open isolating path (with test disconnect plug) 7.3 kV

## Dielectric test 1 min. power-frequency withstand voltage

Result Test passed

Test voltage setpoint 1.89 kV

Test voltage between neighboring terminal blocks/pol. 4.0 kV

Test voltage terminal block/NS 35 DIN rail 7.5 kV

Test voltage, isolating distance open (with test disconnect plug) 4.0 kV

## Test of mechanical strength of clamping units (5x conductor connection)

Result Test passed

Screw thread M4

Tightening torque 1.5 Nm to 1.8 Nm

## Testing for damage to and accidental loosening of conductors of a terminal block (flexion test)

Result Test passed

Rotation speed 10 U/min

rpm 135

Conductor cross section/weight 0.2 mm<sup>2</sup>/0.2 kg

Conductor cross section/weight 6 mm<sup>2</sup>/1.4 kg

Conductor cross section/weight 10 mm<sup>2</sup>/2 kg

## Pull-out test

Result Test passed

Conductor cross section/tractive force setpoint/actual value 0.2 mm<sup>2</sup> / 10 N / 20 N

Conductor cross section/tractive force setpoint/actual value 6 mm<sup>2</sup> / 80 N / 160 N

Conductor cross section/tractive force setpoint/actual value 10 mm<sup>2</sup> / 90 N / 180 N

Attachment of the terminal block on its fixing support		
Result	Test passed	
Fixing support	NS 35	
Test force setpoint	5 N	
Test force	5 N	
Voltage drop		
	Test disconnect terminal	with test disconnect plug
Result	Test passed	
Conductor-cross section/Test current/Voltage drop	6 mm <sup>2</sup> / 4.1 A / 3 mV	2.5 mm <sup>2</sup> / 2.4 A / 3.3 mV
Temperature rise test		
	Test disconnect terminal	with test disconnect plug
Result	Test passed	
Requirement temperature-rise test	Increase in temperature ≤ 45 K	
Conductor cross-section/test current/temperature rise	6 mm <sup>2</sup> / 20 A / 15 K	
Conductor cross-section/test current/temperature rise	2.5 mm <sup>2</sup> / 20 A / 35 K (20 pol.)	2.5 mm <sup>2</sup> / 20 A / 39 K (20 pol.)
Short-time withstand current test		
	Test disconnect terminal	
Specification	In following acc. DIN EN 60255-6:1994-11	
Result	Test passed	
Conductor cross section/short-time current	4 mm <sup>2</sup> / 500 A / 1 s	
	4 mm <sup>2</sup> / 150 A / 10 s	
	4 mm <sup>2</sup> / 1250 A / 10 ms	
Notes	The test with 4 mm <sup>2</sup> / 500 A / 1s covers the requirements 4 mm <sup>2</sup> / 480 A / 1s acc. to IEC 60947-7-1:2009-04	
Ageing test for screwless-type terminal blocks		
	Test disconnect terminal	with test disconnect plug
Result	Test passed	
Test current	4.1 A	2.4 A
Conductor cross section	6 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Temperature cycles	192	192
Voltage drop terminal point/terminal point before testing	3.6 mV	3.3 mV
Voltage drop terminal point/terminal point after 24th cycle	3.6 mV	3.1 mV
Voltage drop terminal point/terminal point after testing	3.6 mV	3.1 mV

### Verification of thermal characteristics (needle flame)

Result	Test passed
Time of exposure	30 s

### Durability test of the test disconnect plug

Result	Test passed
Maximum No. of actuations	50 cycles

## Special tests

### Mechanical Durability test of the test disconnect plug

Specification	Following IEC 61984:2008-10
Contact point	<b>Test disconnect terminal</b> /test disconnect plug
Result	Test passed
Maximum No. of actuations	500
Notes	<b>Test disconnect terminals</b> were exchanged every 50 cycles.

### Seasoned -test disconnect plug

Contact point	<b>Test disconnect terminal</b>
Test current	4.1 A
Rated cross section	6 mm <sup>2</sup>
Forward aging test disconnect plug	max. 450 (insertion- and withdrawal force) operation cycles
No. of Actuation	50
Finishing treatment	heat aging 168h/85°C alternativ: testing in a saturated atmosphere in the presence of sulfur dioxide
Voltage drop terminal point/terminal point before testing	3.3 mV
Voltage drop terminal point/terminal point after testing	<9.6 mV
Notes	9.6 mV corresponds to the maximal allowed voltage drop before the test (6.4 mV) multiplied with the factor 1.5 (following in acc. to 60947-7-1:2009-04).

## Vibration stress at static operation

Specification	Following DIN EN 60255-21-1:1996-05
Result	Test passed
Frequency	10 - 150 Hz
Sweep speed	1 octave/min
Amplitude	+/- 0.0075 mm (10 - 57.6 Hz)
Acceleration	1 g (57.6 - 150 Hz)
Test cycles per axis	20
Test directions	X-, Y- and Z-axis

## Shock stress at static operation

Specification	Following DIN EN 60255-21-2:1996-05
Result	Test passed
Pulse shape	Half-sine
Peak acceleration	5 g
Shock duration	11 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)

## Vibration stress during transport

Specification	Following DIN EN 60255-21-1:1996-05
Result	Test passed
Frequency	10 - 150 Hz
Sweep speed	1 octave/min
Amplitude	+/- 7.5 mm (5 - 8.1 Hz)
Acceleration	2 g (8.1 - 150 Hz)
Test cycles per axis	20
Test directions	X-, Y- and Z-axis

## Shock stress during transport

Specification Following DIN EN 60255-21-2:1996-05

Result Test passed

Pulse shape Half-sine

Peak acceleration 15 g

Shock duration 11 ms

Number of shocks per direction 3

Test directions X-, Y- and Z-axis (pos. and neg.)

## Continuous shock during transport

Specification Following DIN EN 60255-21-1:1996-05

Result Test passed

Frequency 10 - 150 Hz

Sweep speed 1 octave/min

Amplitude +/- 0.0075 mm (10 - 57.6 Hz)

Acceleration 1 g (57.6 - 150 Hz)

Test cycles per axis 20

Test directions X-, Y- and Z-axis

## Testing in a saturated atmosphere in the presence of sulfur dioxide

Result Test passed

Climate level KFW 1.0 S

Cycles 2

## Assessment of fire risk (glow wire)

Specification DIN EN 60695-2-11 (VDE 0471-2-11):2001-11

Result Test passed

Temperature for testing 960 °C

Time of exposure 30 s

## Heat safety

Specification DIN VDE 0611-4:1991-02

Result Test passed

Temperature 85 °C

Test duration 16 h



**Operation of the plug (insertion- and withdrawal force)**

Result	Test passed
Insertion strength per pos.	14 N to 17 N
Withdraw strength per pos.	8 N to 11 N

**Polarisation**

Specification	Following acc. to IEC 61984:2008-10
Result	Test passed

## Accessory tests

**Current carrying capacity of bridges**

Result	Test passed
FBS 2-8	20 A

**Operation of the bridge (insertion/withdrawal cycles)**

Maximum No. of actuations	10 cycles
Bridge	FBS 2-8

Bridge accessories *	Type	Article no:
Plug-in bridge for cross-connections in the terminal center, 2-pos., color: Red	FBS 2-8	3030284
Plug-in bridge for cross-connections in the terminal center, 3-pos., color: Red	FBS 3-8	3030297
Plug-in bridge for cross-connections in the terminal center, 4-pos., color: Red	FBS 4-8	3030307
Plug-in bridge for cross-connections in the terminal center, 5-pos., color: Red	FBS 5-8	3030310

\* Accessories to be ordered from PHOENIX CONTACT

<b>Product-specific details</b>				
<b>Details of metal parts</b>	Test disconnect terminal	Flange cover	Test disconnect plug	
Component	UTME 6-MP	DF-UTME 6-MP	SMP 8/20	
Metal parts - live parts	Cu alloy		Cu alloy	
Metal parts - surface	Tin-plated/silvered		Tin-plated/silvered	
<b>Details of the insulating material</b>	Test disconnect terminal	Flange cover	Test disconnect plug	
Type of insulation material	PA 6.6	PA 6.6	PA 6.6	
Color	gray	darkgray	darkgray	
Relative Temperature Index (Elec., UL 746 B)	130 °C	130 °C	130 °C	
Temperature Index (DIN EN 60216-1 (VDE 0304-21))	130 °C	130 °C	130 °C	
Comparative tracking index (DIN EN 60112 (VDE 0303-11))	CTI 600	CTI 600	CTI 600	
Inflammability class acc. to UL 94	V0	V0	V0	
<b>Dimensions</b>	Test disconnect terminal	Test disconnect plug		
Width	8.2 mm			
Height NS 35/7,5	50.6 mm	78.5 mm		
Height NS 35/15	58.15 mm	86.0 mm		
Height		71.0 mm		
Length	101 mm	99.8 mm		
Weight	29.5 g	36.5 g		
<b>Dimensions</b>	SMP 8/8...	SMP 8/16...	SMP 8/20...	SMP 8/24...
Width incl. cap nut	105 mm	171 mm	203 mm	236 mm
Height with NS 35/7,5 and Test disconnect terminal	178.7 mm	178.7 mm	178.7 mm	178.7 mm
Height with NS 35/15 and Test disconnect terminal	186.2 mm	186.2 mm	186.2 mm	186.2 mm
Height	177.6 mm	177.6 mm	177.6 mm	177.6 mm
Length	71.5 mm	71.5 mm	71.5 mm	71.5 mm
Weight / 1pcs	265 g	420 g	500 g	575 g

<b>Appendix SIEMENS Order Numbers</b>	<b>Type</b>	<b>Order No.</b>	<b>Color</b>
UTME 6-MP	50pcs. Test disconnect terminal	PHO:3208414	gray
SMP 8/8 -CUS	1pcs Test disconnect plug 8-pole *	PHO:3208427	darkgray
SMP 8/16-CUS	1pcs Test disconnect plug 16-pole *	PHO:3208485	darkgray
SMP 8/20-CUS A	1pcs Test disconnect plug 20-pole type A *	PHO:3208443	darkgray
SMP 8/20CUS B	1pcs Test disconnect plug 20-pole type B *	PHO:3245985	darkgray
SMP 8/20CUS C	1pcs Test disconnect plug 20-pole type C *	PHO:3245972	darkgray
SMP 8/24-CUS	1pcs Test disconnect plug 24-pole *	PHO:3208498	darkgray
DF-UTME 6-MP	10pcs. Flange cover for test disconnect terminal	PHO:3208469	darkgray

\* including accessories: plug-in bridges and test adaptors for 4mm banana plugs

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