

## Current and voltage monitoring relays, single phase

### Benefits and advantages

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#### Characteristics current monitoring relays

- Monitoring of DC and AC currents: 3 mA to 15 A <sup>1)</sup>
- TRMS measuring principle
- One device includes 3 measuring ranges
- Over- and undercurrent monitoring<sup>1)</sup>
- ON or OFF delay configurable<sup>1)</sup>
- Open- or closed circuit principle configurable<sup>1)</sup>
- Latching function configurable<sup>1)</sup>
- Thresholds for >I and/or <I adjustable<sup>1)</sup>
- Fixed hysteresis of 5 %<sup>1)</sup>
- Start-up delay  $T_v$  adjustable 0; 0.1 - 30 s<sup>1)</sup>
- Tripping delay  $T_v$  adjustable 0; 0.1 - 30 s<sup>1)</sup>
- 1 x 2 c/o contacts (common signal) or 2 x 1 c/o contact (separate signals for >I and <I) configurable<sup>1)</sup>
- 22.5 mm width
- 3 LED's for status indication

<sup>1)</sup> depending on device

#### Current monitoring, single-phase

The ABB current monitoring relays CM-SRS.xx reliably monitor the occurrence of currents that exceed or fall below the selected threshold value. The functions overcurrent or undercurrent monitoring can be pre-selected. Single- and multifunction devices for the monitoring of direct or alternating currents from 3 mA to 15 A are available.

#### Current window monitoring ( $I_{min}$ , $I_{max}$ )

The window monitoring relay CM-SFS.2x is available if the application requires the simultaneous monitoring of over- and undercurrents.

#### Characteristics voltage monitoring relays

- Monitoring of DC and AC voltages from 3 - 600 V
- TRMS measuring principle
- One device includes 4 measuring ranges: 3 - 30 V; 6 - 60 V; 30 - 300 V; 60 - 600 V
- Over- and undervoltage monitoring<sup>1)</sup>
- ON or OFF delay configurable<sup>1)</sup>
- Open- or closed circuit principle configurable<sup>1)</sup>
- Latching function configurable<sup>1)</sup>
- Threshold values for >U and/or <U adjustable<sup>1)</sup>
- Fixed hysteresis of 5 %<sup>1)</sup>
- Start-up delay  $T_v$  adjustable 0; 0.1 - 30 s<sup>1)</sup>
- Tripping delay  $T_v$  adjustable 0; 0.1 - 30 s<sup>1)</sup>
- 1 x 2 c/o contacts (common signal) or 2 x 1 c/o contact (separate signals for >U and <U) configurable<sup>1)</sup>
- 22.5 mm width
- 3 LED's for status indication

#### Voltage monitoring, single-phase

The ABB voltage monitoring relays CM-SRS.xx are used to monitor direct and alternating voltages within a range of 3-600 V. Over- or undervoltage detection can be preselected.

#### Voltage window monitoring ( $U_{min}$ , $U_{max}$ )

For the simultaneous detection of over- and undervoltages, the window monitoring relay CM-EFS.2 can be used.

# Current and voltage monitoring relays, single phase

## Selection and conversion

Measuring & monitoring relays  
CM Range

	Reference code	Catalog number	Predecessor
	CM-SRS.11S	1SVR730840R0200	1SVR430840R0200
	CM-SRS.11P	1SVR740840R0200	
	CM-SRS.11S	1SVR730841R0200	1SVR430841R0200
	CM-SRS.11P	1SVR740841R0200	
	CM-SRS.11S	1SVR730841R1200	1SVR430841R1200
	CM-SRS.11P	1SVR740841R1200	
	CM-SRS.12S	1SVR730840R0300	1SVR430840R0300
	CM-SRS.12S	1SVR730841R0300	1SVR430841R0300
	CM-SRS.21S	1SVR730841R1300	1SVR430841R1300
	CM-SRS.21S	1SVR730840R0400	1SVR430840R0400
	CM-SRS.21P	1SVR740840R0400	
	CM-SRS.21S	1SVR730841R0400	1SVR430841R0400
	CM-SRS.21P	1SVR740841R1400	
	CM-SRS.22S	1SVR730840R0500	1SVR430840R0500
	CM-SRS.22S	1SVR730841R0500	1SVR430841R0500
	CM-SRS.M1S	1SVR730841R1500	1SVR430841R1500
	CM-SRS.M1P	1SVR730840R0600	1SVR430840R0600
	CM-SRS.M2S	1SVR740840R0600	
	CM-SFS.21S	1SVR730760R0400	1SVR430760R0400
	CM-SFS.21P	1SVR740760R0400	
	CM-SFS.22S	1SVR730760R0500	1SVR430760R0500
<b>Rated control supply voltage <math>U_c</math></b>			
24 - 240 V AC/DC		■	■
110 - 130 V AC			■
220 - 240 V AC			■
<b>Measuring ranges AC/DC</b>			
3 - 30 mA		■	■
10 - 100 mA		■	■
0.1 - 1 A		■	■
0.3 - 1.5 A			■
1 - 5 A			■
3 - 15 A			■
<b>Monitoring function</b>			
Over- or undercurrent		■	■
Windows current monitoring			■
Latching			sel
Open circuit or closed circuit principle			sel
<b>Timing functions for tripping delay</b>			
ON delay, 0 or 0,1 - 30 s			adj
ON or OFF delay			sel
<b>Output</b>			
c/o contact		1	2
<b>Connection type</b>			
Easy Connect Technology		■	■
Double-chamber cage connection terminals		■	■

# Current and voltage monitoring relays, single phase

## Selection and conversion

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Reference code	Catalog number	Predecessor
CM-ESS.1S	1SVR730831R0300	1SVR430831R0300
CM-ESS.1P	1SVR740831R0300	
CM-ESS.1S	1SVR730831R0300	1SVR430831R0300
CM-ESS.1P	1SVR740831R0300	
CM-ESS.1S	1SVR730831R1300	1SVR430831R1300
CM-ESS.1P	1SVR740831R1300	
CM-ESS.2S	1SVR730830R0400	1SVR430830R0400
CM-ESS.2P	1SVR740830R0400	
CM-ESS.2S	1SVR730831R0400	1SVR430831R0400
CM-ESS.2P	1SVR740831R0400	
CM-ESS.2S	1SVR730831R1400	1SVR430831R1400
CM-ESS.2P	1SVR740831R1400	
CM-ESS.MS	1SVR730830R0500	1SVR430830R0500
CM-ESS.MP	1SVR740830R0500	
CM-EFS.2S	1SVR730750R0400	1SVR430750R0400
CM-EFS.2P	1SVR740750R0400	

  

Rated control supply voltage $U_s$	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
24 - 240 V AC/DC	■	■					■	■					■	■	■	■
110 - 130 V AC			■	■					■	■						
220 - 240 V AC					■	■					■	■				

  

Measuring ranges AC/DC	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
3 - 30 V	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6 - 60 V	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
30 - 300 V	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
60 - 600 V	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

  

Monitoring function	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
Over- or undervoltage	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
Windows voltage monitoring															■	■
Latching													sel	sel	sel	sel
Open circuit or closed circuit principle													sel	sel	sel	sel

  

Timing functions for tripping delay	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
ON delay, 0 or 0,1 - 30 s							adj	adj	adj	adj	adj	adj	adj	adj		
ON or OFF delay															sel	sel

  

Output	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
c/o contact	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2

  

Connection type	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.1S	CM-ESS.1P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.2S	CM-ESS.2P	CM-ESS.MS	CM-ESS.MP	CM-EFS.2S	CM-EFS.2P
Easy Connect Technology		■		■		■		■		■		■		■		■
Double-chamber cage connection terminals	■		■		■		■		■		■		■		■	