

# Monitoring Devices

## 5TT3 1 and 5TT3 4 voltage relays

### Technical specifications

Data according to DIN VDE 0435-110, -303, IEC 60255				5TT3 400 5TT3 401 5TT3 402 5TT3 403	5TT3 404 5TT3 405	5TT3 406	5TT3 194	5TT3 195
<b>Rated control voltage <math>U_c</math></b>	V AC			230/400				400
<b>Operating range</b> (overload capability)	$\times U_c$			1.1			1.35	
<b>Rated frequency</b>	Hz			50/60				
<b>Back-up fuse</b>	terminals L1/L2/L3	A		2				
<b>Response values <math>\times U_c</math></b>	ON-switching OFF-switching			0.9/0.95 0.7/0.85		4 % hysteresis 0.7 ... 0.95	0.9 ... 1.3	
<b>Minimum contact load</b>	V/mA			10/100				
<b>Phase asymmetry</b>	setting accuracy	%	--		approx. 5 ... 10		--	approx. 5 ... 10
	repeat accuracy	%	--		1		--	1
<b>Phase failure detection</b>	at L1 or L2 at L3	ms ms		100 100			140 30	
<b>N-conductor monitoring</b>			--		Yes		--	
<b>Rated insulation voltage <math>U_i</math></b>	between coil/contact	kV		4				
<b>Contacts</b>	$\mu$ contact (AC-11)	A		4				
<b>Electrical isolations</b>	creepage and clearances actuator/contact	mm		3	5.5			
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	actuator/contact	kV		> 2.5	> 4			
<b>Terminals</b>	+/- screw (Pozidriv)			1				
<b>Conductor cross-sections</b>	rigid flexible with sleeve	max. mm <sup>2</sup> min. mm <sup>2</sup>		2 $\times$ 2.5 0.5				
<b>Permissible ambient temperature</b>		°C		-20 ... +60				
<b>Resistance to extreme climates</b>	according to EN 60068-1			20/60/4				

Data according to DIN VDE 0435-110, IEC 60255				5TT3 407	5TT3 408	5TT3 410
<b>Rated control voltage <math>U_c</math></b>	V AC			230/400		
<b>Operating range</b> (overload capability)	$\times U_c$			1.1	1.35	1.2
<b>Rated frequency</b>	Hz			50/60		
<b>Back-up fuse</b>	terminals L1/L2/L3	A		2		
<b>Response values <math>\times U_c</math></b>	overvoltage: OFF-switching ON-switching			-- --	0.9 ... 1.3 $U_c$ 4 % hysteresis	-- --
	undervoltage: OFF-switching ON-switching			0.8 0.85	0.7 ... 1.1 $U_c$ 4 % hysteresis	-- --
<b>Minimum contact load</b>	V/mA			10/100		
<b>Phase asymmetry</b>	setting accuracy	%		approx. 5 ... 10		
	repeat accuracy	%		1		
<b>Phase failure detection</b>	at L1, L2 or L3	ms		$\geq$ 20	100	--
<b>OFF delay</b>		s		--	0.1 ... 20	--
<b>Automatic reclosing delay</b>		s		0.2 ... 20	-	--
<b>Rated insulation voltage <math>U_i</math></b>	between coil/contact	kV		4		
<b>Contacts</b>	$\mu$ contact (AC-11)	A		3	1	4
<b>Electrical isolations</b>	creepage and clearances contact/contact actuator/contact	mm mm		-- 4	4	-- 5.5
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	actuator/contact	kV		> 4		
<b>Rated operational power <math>P_S</math></b>	AC operation: 230 V and p.f. = 1 230 V and p.f. = 0.4	VA VA		2 000 1 250	-- --	-- --
	DC operation: $U_e = 24$ V and $I_e = 6$ A $U_e = 60$ V and $I_e = 1$ A $U_e = 110$ V and $I_e = 0.6$ A $U_e = 220$ V and $I_e = 0.5$ A	W W W W		max. 100 max. 100 max. 100 max. 100	-- -- -- --	-- -- -- --
<b>Terminals</b>	+/- screw (Pozidriv)			1		
<b>Conductor cross-sections</b>	rigid flexible with sleeve	max. mm <sup>2</sup> min. mm <sup>2</sup>		2 $\times$ 2.5 0.5		
<b>Permissible ambient temperature</b>		°C		-20 ... +60		
<b>Humidity class</b>	according to IEC 60068-2-30			F		