

PUMP AND MOTOR PROTECTION / PHASE ANGLE RELAYS

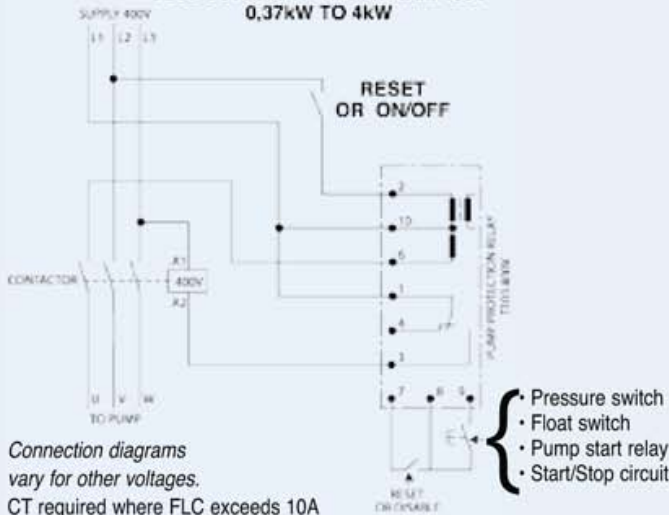
TE SERIES phase angle and pump protection relays



- TE01:** Phase angle protection only – running dry, underload and blocked in/outlet
- TE01/S:** TE01 for use with S-D or soft start.
- TE02:** Advanced borehole pump and motor protection – compact 11-pin construction. Auto calibration
- TE03:** TE02 with tank control and rapid start protection

LED:	Green	Amber	Red	Status of TE02/TE03
	On	Off	Off	Normal pumping
	Flash	Off	Off	Dry - timing or phase failure/reversal
	Off	On	Off	Supply voltage low/high
	Off	Flash	Off	Rapid cycle
	Off	Off	On	Motor overload or phase failure
	On	On	On	TE02/3 uncalibrated
	Flash	Flash	Flash	TE02/3 calibrating
	Off	Off	Off	TE02/3 unable to calibrate

TE03 CONNECTION DIAGRAM 400V
0,37kW TO 4kW



TE02/03 pump protection relay specifications

- Supply Voltage:** Single phase 230V ± 20%, Three phase: 400V ± 20%, 525V ± 20%
- Power consumption:** 2VA
- Calibration:** Automatic – activated by pushbutton
- Dry trip level:** Calibrated phase angle and current – 10%, 2 seconds delay
- Voltage trip level:** Calibrated voltage ± 10%, 2 seconds delay
- Current trip level:** Calibrated current + 20%, 1 second delay
- Rapid cycle:** 3 starts per 15 minutes maximum (TE03)
- Dry restart delay:** Adjustable 15 minutes to 24 hours
- Output relay:** 10Amp SPDT @ 250VAC.



	TE01 230V or 400V	TE02 230 or 400V 525 or 1000V: control voltage to be specified	TE03 230 or 400V
Plug-in	●	●	●
Running dry, under load, blocked in/outlet	●	●	●
Overcurrent adjustable		Self Adjusting	Self Adjusting
Phase failure/reversal		●	●
Overvoltage/undervoltage		●	●
Star delta or soft-start connection	●*	●	●
Locked rotor		●	●
Shunt required	●	–	–
Rapid pump start protection cut out over 12 start/hour		–	●
LED status		●	●
Calibration	Man	Auto	Auto
Tank control (float switch)		–	●

*TE01/S version only

For multiple pump applications, use one relay per pump.

Current transformer selection for TE Series

	230V					400V										
	HP	0.36-1.1	1.5	2	3	0.5-1.5	2-7.5	10	15	20	25	30	40	50	60	75
	kW	0.25-0.75	1.1	1.5	2.2	0.37-1.1	1.5-5.5	7.5	11	15	18.5	22	30	37	45	55
TE01	Shunt	White				Red	White					White				
	CT code	–	PW155	PW205	PW255	–	–	PW205	PW305	PW405	DS-505	DS-755	DS-1005	DS-1505		
TE02/03	CT code	–	PW155	PW205	PW255	–	5.5KW PW155	PW205	PW305	PW405	DS-505	DS-755	DS-1005	DS-1505		