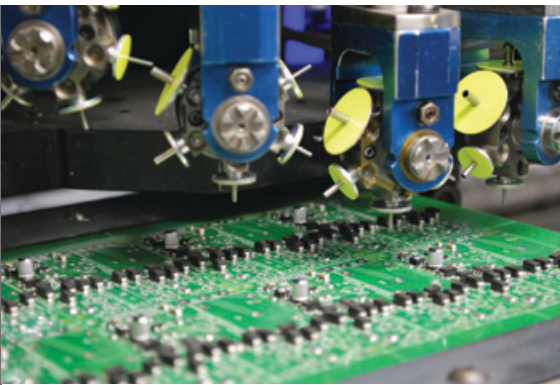




# SHORT FORM

# PRODUCT CATALOG



## 3-PHASE MONITOR RELAYS

Time Mark has a variety of 3-phase relays that can offer protection against phase loss, phase reversal, phase unbalance and under/over voltage. Phase-angle and voltage sensing circuits are used to detect phase loss even when regenerative loads cause little measurable voltage reduction between phases. All models feature automatic reset.

MODEL	PHASE		VOLTAGE			DELAY		MAN. RESET	NOM. AC VOLTAGES					CONTACTS	MOUNT	UL or CSA*
	LOSS	SEQ.	LOW	HIGH	BAL.	TRIP	RESTART		120	208/240	380	480	575			
15		X								X	X		Special (2)	Surface		
158B(R)	X	X	X				(Fixed)		X	X	X	X	SPDT	Surface/DIN		
18	X	X	X			X	X		X	X	X	X	SPDT	Surface/DIN		
19	X	X	X			X	X		X	X	X	X	SPDT	8-Pin		
20	X	X	X	X	X	X	X	X	X	X	X	X	SPDT	Surface/DIN	X	
200					X	X			X	X	X	X	DPDT	Surface		
2002Y					X	X			X	X	X	X	DPDT	Surface		
21	X	X	X	X	X	X	X	X	X	X	X	X	SPDT	8-Pin	X	
246	X	X	X	X					X	X	X		SPDT	8-Pin	X	
25	X	X	X	X	X	X	X	X	24V DC Powered; AC Range: 80V-550V			DPDT	DIN	X		
2500/01	X	X	X		X	X			X	X	X	X	SPDT	Surface	X	
<b>NEW!</b> 2500/01 D	X	X	X		X	X			X	X	X	X	DPDT	Surface	X	
252	X	X	X						X	X	X	X	SPDT,SPST	8-Pin	X	
2522	X	X	X					X	X	X			DPDT	11-Pin	X	
253		X							X	X	X		SPDT	8-Pin	X	
2532		X							X	X	X		SPDT	Surface	X	
257/258	X	X	X					X	X	X	X	X	SPDT	8-Pin	X	
259	X	X	X			X	X		X	X	X	X	DPDT	Surface		
2594	X	X	X						X	X	X	X	DPDT	Surface		
263	X	X	X					X	X	X	X	X	SPDT	Surface	X	
264	X	X	X			X			X	X	X	X	SPST(2)	Surface		
2642	X	X	X			X		X	X	X	X	X	DPDT	Surface	X	
2644(R)	X	X	X			X	(Fixed)	X	X	X	X	X	DPDT	Surface	X	
265	X	X	X				X		X	X	X	X	SPDT	Surface	X	
2652	X	X	X			X	X	X	X	X	X	X	DPDT	Surface	X	
269(R)	X	X	X	X		X	(Fixed)		X	X	X	X	SPDT	Surface	X	



## TRANSFORMERS & TRANSDUCERS

Our current transformers are available in a variety of amp ranges for single phase and 3-phase.

Our AC transducers are designed to accept 0-5 amp AC current input and provide proportional DC current or voltage output.

MODEL	DESCRIPTION	UL or CSA*
276A	Open frame type CT with ratios of 10:5 amps to 40:5 amps	x
276B	Ring type CT with ratios of 50:5 amps to 1200:5 amps	x
276B-3	3-phase CT with ratios 50:5 to 1200:5 amps; isolated outputs	x
278	AC current transducer; 115VAC or 230VAC; 4-20mA output; 8-Pin	x
2780	AC current transducer; 0-5 amp input; 0-10 VDC output; 8-Pin	x



\* See individual data sheets for any special conditions or requirements on the UL or CSA Certified models.

## ALTERNATING RELAYS

Alternating Relays are used to equalize or optimize the run time of multiple pumps or compressors. Options are available for 1, 2, 3 or 4 motor/pump configurations.



MODEL	CONTACTS	12V	24V	120V	240V	MOUNT	UL or CSA*
261D (T)	DPDT	AC/DC	AC/DC	AC/DC	AC/DC	11-Pin	x
261DX (T)	DPDX	AC/DC	AC/DC	AC/DC	AC/DC	8-Pin	x
261S (T)	SPDT	AC/DC	AC/DC	AC/DC	AC/DC	8-Pin	x
2611	DPST		AC/DC	AC/DC		8-Pin	x
271	SPST			AC		Surface	
441	SPST			AC	AC	Surface	
442	SPST			AC	AC	Surface	
471	SPST	AC/DC	AC/DC	AC/DC	AC/DC	Surface	

## VOLTAGE & FREQUENCY MONITORS

Time Mark Voltage Monitors detect voltage levels above or below the selected set point. Voltage Band Monitors energize relays between set points.



MODEL	FUNCTION	VOLTAGE RANGE	MOUNT	CONTACTS	UL or CSA*
16-1-L	Over & Under	12-30V AC/DC	8-Pin = SPDT(2) Surface = SPDT		
16-1-H	Over & Under	30-277V AC/DC			
16-3-L	Pick Up/Drop Out	12-30V AC/DC			
16-3-H	Pick Up/Drop Out	30-277V AC/DC			
160B (R)	Under or Over	120/240/480 VAC	Surface	SPDT	
26	Over & Under	24V DC Powered; AC Range: 80V-550V	DIN	SPDT(2)	x
260	Under or Over	Multiple VAC & VDC Options	8-Pin	SPDT	x
2601	Under or Over	Multiple VAC & VDC Options	8-Pin	SPDT	
2602	Under/Quick Drop Out	120VAC	Surface	DPDT	
2621	Pick Up/Drop Out	Multiple VAC & VDC Options	8-Pin	SPDT	
2628	Under or Over	15-260V AC/DC	8-Pin	SPDT	
2629	Under or Over	15-260V AC/DC	8-Pin	DPDT	
268	Over & Under	90-140 VAC	8-Pin	SPDT	
2681	Over & Under	Multiple VAC & VDC Options	8-Pin	SPDT	
29	Frequency Monitor	24V DC Powered; AC Range: 80V-550V	DIN	SPDT(2)	x

## ACCESSORIES & INSTRUMENTATION



MODEL	DESCRIPTION	UL or CSA*
Sockets	8-Pin: 10A@600VAC 11-Pin: 10A@300VAC 12-Pin: 10A@600VAC	x
108A	Line voltage & phase sequence detector	
108C	Motor rotation indicator	
2480	Extend the trip range of our 480V 3-phase monitors to 528VAC	
2481	Extends voltage range of Model 252B 3-Phase Monitor to 635VAC	
280 & 281	AC/DC General Purpose Relays: 280=DPDT; 8-Pin 281=3PDT; 11-Pin	x
680	Voltage/Current Simulator: Outputs 4-20 mA, 0-20mA, 0-5V or 0-10V	
HDC-1	Hold Down Clamp: Secures socket mounted relays from vibration	

## CURRENT MONITORS

Current Monitors detect over-current, under-current or current unbalance on single-phase or 3-phase lines. Current transformers are used when current exceeds 5 amps. Models available for socket, surface or DIN rail mounting.

MODEL	PH.	FUNCTION	MOUNT	DELAY		VOLTAGE					RANGE(S)	UL or CSA*
				TRIP	START	24V	120V	208V	220V	240V		
171	1	Under Current Only	8-Pin	X	X	AC					0.1 - 1A	
173	1	Under or Over Current	Surface/DIN			AC				AC	1 - 5A/5-25A	
1732	1	Under or Over Current	Surface/DIN			No Power Required					25 - 150A	
27	1	Under & Over Current	DIN	X	X	DC					0 - 5A	x
272	3	Current Unbal. 2-25%	Surface	X		AC	AC				1 - 5A	
2722	3	Current Unbal. 2-25%	Surface	X		AC	AC	AC	AC	AC	1 - 5A	x
273	1	Under or Over Current	8-Pin			AC	AC				0.5 - 5A	x
2732	1	Under or Over Current	Surface	X		AC	AC	AC	AC	AC	1 - 5A	
2734	1	Over Current Only	Surface	X		AC	AC				2 - 20A, 1-10A, 0.5-5A	
274	3	Over Current Only	Surface	X		AC	AC	AC	AC	AC	1 - 5A	
2742	3	Under or Over Current	Surface	X		AC	AC	AC	AC	AC	1 - 5A	
2744	3	Over Current Only	Surface		X	AC	AC	AC	AC	AC	1 - 5A	
275	1	Over Current Only	Surface	X		AC	AC				1 - 5A	
279	1	DC Current Monitor	8 or 11 Pin	X		AC	AC				1 - 10A DC	
2730	1	Under & Over Current	Surface	X	X	AC	AC	AC	AC	AC	1 - 5A	



## PUMP & LIQUID LEVEL CONTROLS

Pump and Liquid Level Controls protect pumps and provide liquid level control for pumping systems. Controllers monitor levels using transducers, float switches and bubbler-type sensors. Different versions and combinations can provide alternation, HOA controls, run time meters and alarm outputs. Select versions have communications capability.

MODEL	DESCRIPTION	UL or CSA*
403	Duplex level controller; Provides alternation of pumps	
4042	Liquid level controller with 4 set points	x
4052	Pump-Down controller for duplex alternation; Built-in communications	x
4062	Pump-Up controller for duplex alternation; Built-in communications	x
4082	Liquid level controller with 8 set points	x
409D	Liquid level controller; 11-Pin socket mounted	
422	Detects motor over/under load; Trip & restart delays; Use with 1 or 3-phase pumps	x
TMC-430	Controls 2 or 3 pumps with a 4-20mA input or 2 pumps with a 4-20mA input and backup floats; Graphic display shows current depth, set-points, date/time and alarm status; Built-in Communications	
450	Pressure transducer; 0-15 psi input; 4-20 mA output	x
460D	Switch-to-Loop Converter; Less expensive than a transducer & works with float switches; LED Loop Output Indicator (4-20mA)	
4000	Surface Mount Kit: Enclosures for Models 403, 404, 4042, 4052, 4062 and 408	



\* See individual data sheets for any special conditions or requirements on the UL or CSA Certified models.

## SPECIAL CONTROLS

Time Mark manufactures many types of specialized devices. These include Capacitor Trip Devices, Motor Load Monitors and Two-Hand Control Modules.

MODEL	DESCRIPTION	UL or CSA*
295	Capacitor Trip Device; Operates shunt trip breakers; 120VAC or 240VAC	
410	Auto-Charged Capacitor Trip Device with Battery; 120VAC or 240VAC	x
412	Automatic Reverse Controller; Up to 5 forward-reverse cycles; Push-button simulator/tester	
421	Over/Under Motor Load Monitor; Monitors true power (Voltage x Current x Power Factor); Adjustable trip and restart delays	x
553	Re-Acceleration Relay for Undervoltage Control; Allows momentary power outage without causing reset condition	
850	Two-Hand Control Module; AC or DC versions; 11-Pin; Installs into existing control panel	



## TIME DELAY RELAYS

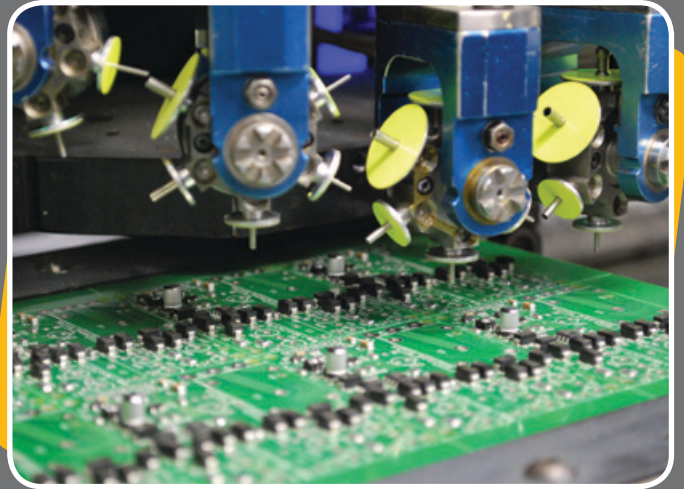
Time Mark Corporation offers a wide variety of single and multi-function industrial timers under our "Signaline" brand to help you manage and protect your valuable equipment.



MODEL	FUNCTION	VOLTAGE	TIMING RANGE	MOUNT	CONTACTS	UL or CSA*
30	High Voltage Timer	240/480VAC	4 ranges ( 0.1 Sec. - 1023 Hr.)	Surface	DPDT (600V)	
300	Programmable Timer	L = 10-28V AC/DC H = 40-260V AC/DC	4 ranges (0.15 Sec. - 64 Min.)	8-Pin	SPDT	x
301	Programmable Timer		4 ranges (0.15 Sec. - 64 Min.)	11-Pin	DPDT	x
303	On Delay/Interval Timer		8 ranges (1-900 Sec.)	8-Pin	DPDT	x
330/360	Operate Delay Timer		8-Pin	DPDT	x	
331/361	Release Delay Timer		11-Pin	DPDT	x	
332/362	Interval Timer		8-Pin	DPDT	x	
333/363	Instant & Operate Delay		33X, 39X: 1 - 10 Sec. 36X, 38X: 0.1-102.3 Sec.	8-Pin	SPDT(2)	x
334/364	Delayed One-Shot Timer		1 - 60 Sec.	8-Pin	DPDT	x
335/365	Retriggerable One-Shot		1 - 180 Sec.	11-Pin	DPDT	x
338/368	Recycle Timer - Off First		1 - 300 Sec.	8-Pin	DPDT	x
358/388	Recycle Timer - On First		8-Pin	DPDT	x	
392	Interval/Lockout Timer		8-Pin	SPDT	x	
310	Programmable Timer		20-28VAC & 20-32 VDC or 105-130VAC & 95-125VDC	4 ranges (0.15 Sec. - 64 Min.)	11-Pin	SPDT
339	On/Off Delay Relay	3 options (20-255 VAC/VDC)	4 options (10-300 Sec.)	8-Pin	DPDT	

\* See individual data sheets for any special conditions or requirements on the UL or CSA Certified models.

## CUSTOM AND OEM DESIGN



## WHY CHOOSE TIME MARK?

Since 1972, Time Mark has been engineering and manufacturing industrial control and monitoring products from our headquarters in Tulsa, Oklahoma.

Time Mark offers:

- Exceptional customer service
- Expert technical support
- 5-year warranty on 3-phase and socket mounted products & 1-year warranty on other products.
- Quality products that are made in the U.S.A.



Our products are engineered and manufactured in the U.S.A.

## DISTRIBUTED BY:

