

# TORK<sup>®</sup>

## POOL/SPA PANEL

# Pool/Spa Control Panel With Two Time Switches In Rain Proof Enclosure With Reversible Door



# PP-100R-P4P4FM

One or more of the following patents apply: 6,827,230; 6,791,039. Other Patents Pending.

Panel Rating	INPUT	100A, 120/240V, 60Hz, Single Phase 3 Wire AC, 10KA Short Circuit Rating
	OUTPUT	100A, 120/240V, 60Hz, Single Phase 3 Wire AC, 5 spaces, 10 Maximum Circuits, (2) 7.5HP@240V
Enclosure Rating	NEMA 3R Outdoor Enclosure • Removable & Reversible Front Door	
Switch Rating of each Time Switch	DPST (2 NO Contacts); Auxiliary NC Contact; 40A Resistive/Inductive per pole, 7.5HP (40 FLA) @240V (NO Contact); 15A General Purpose/Resistive @ 120V (NC Contact) In addition, P1104-FM has a fireman switch (heater cutoff switch) -15A, 120V, SPST	

## ⚠ WARNING

### PREVENT ELECTROCUTION

DISCONNECT ALL SUPPLY CONNECTIONS BEFORE SERVICING.

## ! IMPORTANT SAFETY INSTRUCTIONS !

ATTENTION: Read carefully before attempting to install this control. Failure to comply with instructions could result in personal injury and/or property damage!

- This control must be installed in accordance with National and local electrical code requirements. Use the wiring information table below for proper wire gauge selection & screw tightening torque requirements.
- Use the circuit breaker selection table below for list of suitable circuit breaker manufacturers for use in this panel. Follow manufacturers installation instructions. For GFCI circuit breakers, follow manufacturers test procedures. Circuit Breakers must have an AIC rating of 10,000 amps or greater.
- Do not exceed the ratings of this device, and current capacity of conductors.
- Install only **UL approved wiring devices** inside of panel. Follow device manufacturer's installation instructions.
- This control should not operate any equipment which would cause bodily injury or property damage should it be activated unexpectedly. **KEEP FRONT COVER PANEL CLOSED AT ALL TIMES.**

- READ & FOLLOW ALL INSTRUCTIONS
- WARNING - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times
- A wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4 mm<sup>2</sup>) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5 m) of the unit.
- For indoor or outdoor use.
- A green colored terminal or a terminal marked G, GR, Ground, Grounding, or the international ground symbol is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.
- At least two lugs marked "BONDING LUGS" are provided on the external surface or on the inside of the supply terminal box or compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG.
- WARNING - Risk of Accidental Drowning. Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use a pool unless they are closely supervised at all times.
- WARNING - Risk of Electric Shock. Install at least 5 feet (1.5 m) from inside wall of pool using nonmetallic plumbing.
- SAVE THESE INSTRUCTIONS

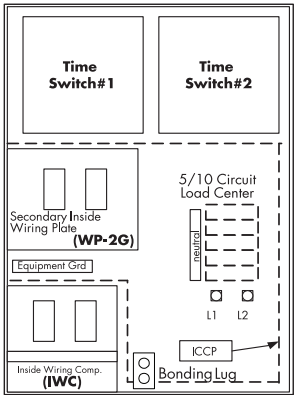
## INSTALLATION & WIRING INSTRUCTIONS

Bonding between conduit connection is not automatic and must be provided as part of the installation. The enclosure must be properly grounded.

- To install time switch into control panel, insert bottom edge of mechanism into universal mounting plate. Push top front edge of mechanism down into the mounting plate. You will hear a click indicating that time switch is securely attached to the bracket. For Tork 1100 series time switches use adapter plate (part #IAP, sold separately).
- Use solid or stranded COPPER wire only. For Supply Connections, use conductors rated minimum 90 °C.

## CONTROL PANEL MOUNTING

Secure control panel to suitable vertical surface or other support using the various mounting holes provided inside of enclosure.



WIRING DIAGRAMS

## IMPORTANT! ATTACH WIRES TO DEVICES PRIOR TO INSERTING THEM INTO INSIDE WIRING COMPARTMENT

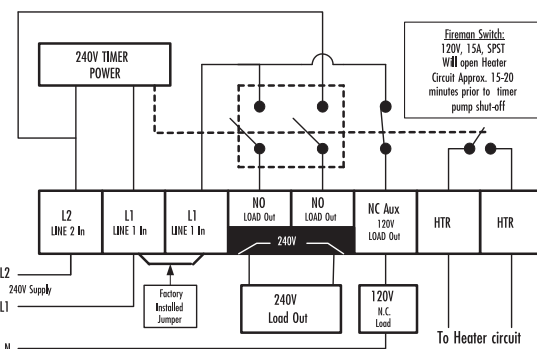
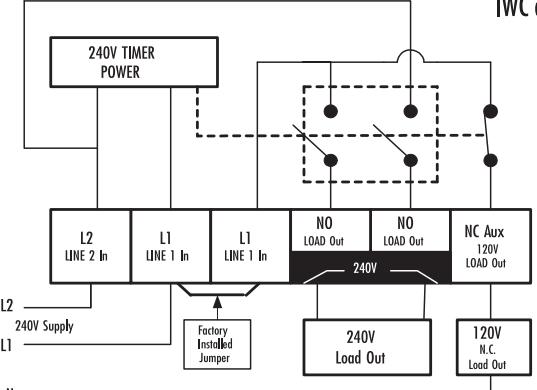
**INSTALLING WIRING DEVICES INTO INSIDE WIRING COMPARTMENTS WHILE-IN-USE INSIDE WIRING COMPARTMENT (IWC):** Allows installer/user to install time controlled receptacles which require a "While-In-Use" outdoor weatherproof cover.

- TO INSTALL DEVICE:**
- Loosen captive screw at base of Inside Wiring Compartment(IWC).
  - Fold out IWC to gain access to rear side.
  - Open Lever Arm.
  - Remove appropriate KO for device being installed. Insert bottom mounting bracket of wiring device into base of IWC.
  - Close Lever Arm to lock devices into IWC.
  - Fold IWC back into control panel and secure captive screw.
- IWC accepts (2) wiring devices.

## SECONDARY WIRING DEVICE PLATE (WP-2G):

Allows for additional wiring devices such as switches, X-10 and UPB type control devices to be installed into control panel.

- Remove Inside Compartment Cover Plate (ICCP). See Diagram.
- Remove the Secondary Wiring Device Plate (WP-2G) from the ICCP by loosening captive screws
- Open Lever Arm on back side of wiring plate.
- Insert bottom mounting bracket of wiring device into base of WP-2G.
- Close Lever Arm to lock devices into WP-2G plate.
- Insert left edge of WP-2G into receiving bracket on left inside edge of control panel.
- Re-attach ICCP to control panel.
- Re-tighten captive screws on ICCP to secure Wiring Plate.



MANUFACTURER	CIRCUIT BREAKER TYPE [xx=circuit breaker amp rating]					
	1"	2"	1"	2"	2"	1" or 2"
	1 Pole (Single Pole)	2 Pole (Double Pole)	Duplex (2) Single Pole	Triplex (2) Single Pole (1) Double Pole	Quad (2) Double Pole	GFCB 1 or 2 Pole
CUTLER HAMMER	BR1xx	BR2xx	BRxx-xx	--	--	GFCB
GE	THQL1xx	THQL2xx	THQP2xx	--	--	THQLxxGFP
MURRAY/SIEMENS	Type MP MP1xx	Type MP MP2xx	Type MHT MPxx-xx	Type MHT MP2XX-XX	Type MHT MP2XX2XXCT2	Type MP MP1xxGF MP2xxGF
SQUARE D (HOMELINE)	HOM1xx	HOM2xx	HOMTxx xxCP	HOMTxx xx2xx	--	HOMxxGFC

WARNING: To avoid accidental contact with live parts, close all openings with breakers or the appropriate filler plates

## WIRING INFORMATION - COPPER CONDUCTORS

Wire Range Data		Lug Tightening Torque (LB-IN)		Wire Ampacity			
CONNECTOR	Sol / Str	Wire Size	Torque	Wire Size	Max Amps	120V	240V
					90 C	HP	HP
Main Lugs	1-6	10-14	32-35	14	25	1/2	2
				12	30	1	3
Neutral Main	1-6	8	36-40	10	40	3	5
				8	55	2	7.5
Neutral Bar	6-14	4-6	41-45	6	75	-	-
				4	95	-	-
Equipment Grd. Bar	4-12	2	50	2	130	-	-
				1	150	-	-
Bonding Lug	4-12	1	50	1	150	-	-

## TIME SWITCH OPERATING INSTRUCTIONS

- To set time: Rotate clock face in a clockwise direction until proper time is lined up with the black arrow.
- To set "ON" & "OFF" times: Push appropriate trippers IN (towards center of clock) for OFF and OUT (Away from center of clock) for ON.
- Modes of operation: (Using 3 position black rocker switch)
  - TIMER/Auto: Automatic operation according to ON/OFF settings
  - OFF/Standby: Load stays OFF
  - ON: Load stays ON