

# Installation Manual



**ecotech EZ<sup>®</sup>**  
**Interface Adapter**

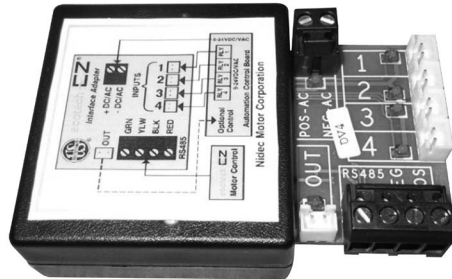
[www.nidec-motor.com/pool](http://www.nidec-motor.com/pool)





## ecotech EZ<sup>®</sup> Interface Adapter Kit includes

- ecotech EZ Interface Adapter



- RS-485 Cable



- RJ12 Power Tap



- Input/output Cables (22 AWG), qty. 5



- Interface Adapter Manual

**! CAUTION**

**To prevent electrical shock and/or equipment damage, disconnect electric power to system at main fuse or circuit breaker box until installation is complete.**

**! ATTENTION**

**ecotech EZ<sup>®</sup> Interface Adapter is not serviceable.**

## Installation

ecotech EZ<sup>®</sup> Interface Adapter installation and all components of the control system shall conform to Class II circuits per the NEC code.

Interface Adapter must be mounted inside the low voltage compartment of most pool control systems. **If there is not an existing suitable enclosure for pool control system, a separate NEMA 4 enclosure is required.**

**! WARNING** Interface adapter wiring is all low voltage; choose a location away from all high voltage.

1. Use the double face mounting tape on back of interface adapter for mounting.
2. Recommended orientation is with input/output cables downward.

## Wiring Connections

Refer to equipment manufacturer's instructions for all wiring other than interface adapter wiring. For wiring to the interface adapter, see BASIC CONFIGURATION section.

### POWER (9-24 VAC/VDC)

+DC/AC.....Positive for DC or AC

-DC/AC.....Negative for DC or AC

Note: Polarity only applicable for DC

### RS485

GRN..... Green wire on RS485 cable

YLW..... Yellow wire on RS485 cable

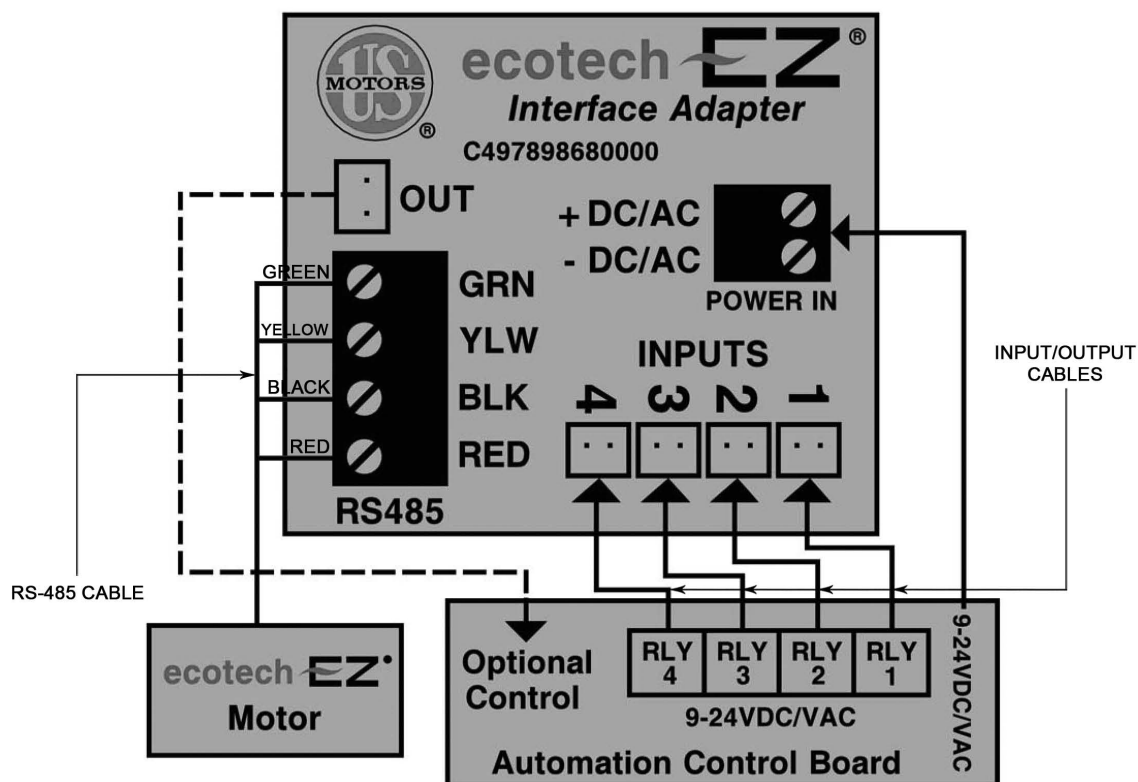
BLK..... Black wire on RS485 cable

RED..... Red wire on RS485 cable

INPUTS 1-4 (9-24 VAC/VDC) – Connect to Relay coil or Valve control of Pool control system

OUTPUT (24 VAC/VDC), 200 mA Max – “ON” when ecotech EZ<sup>®</sup> motor speed is greater than 1600RPM

FIG. 1



**Nidec Motor Corporation**

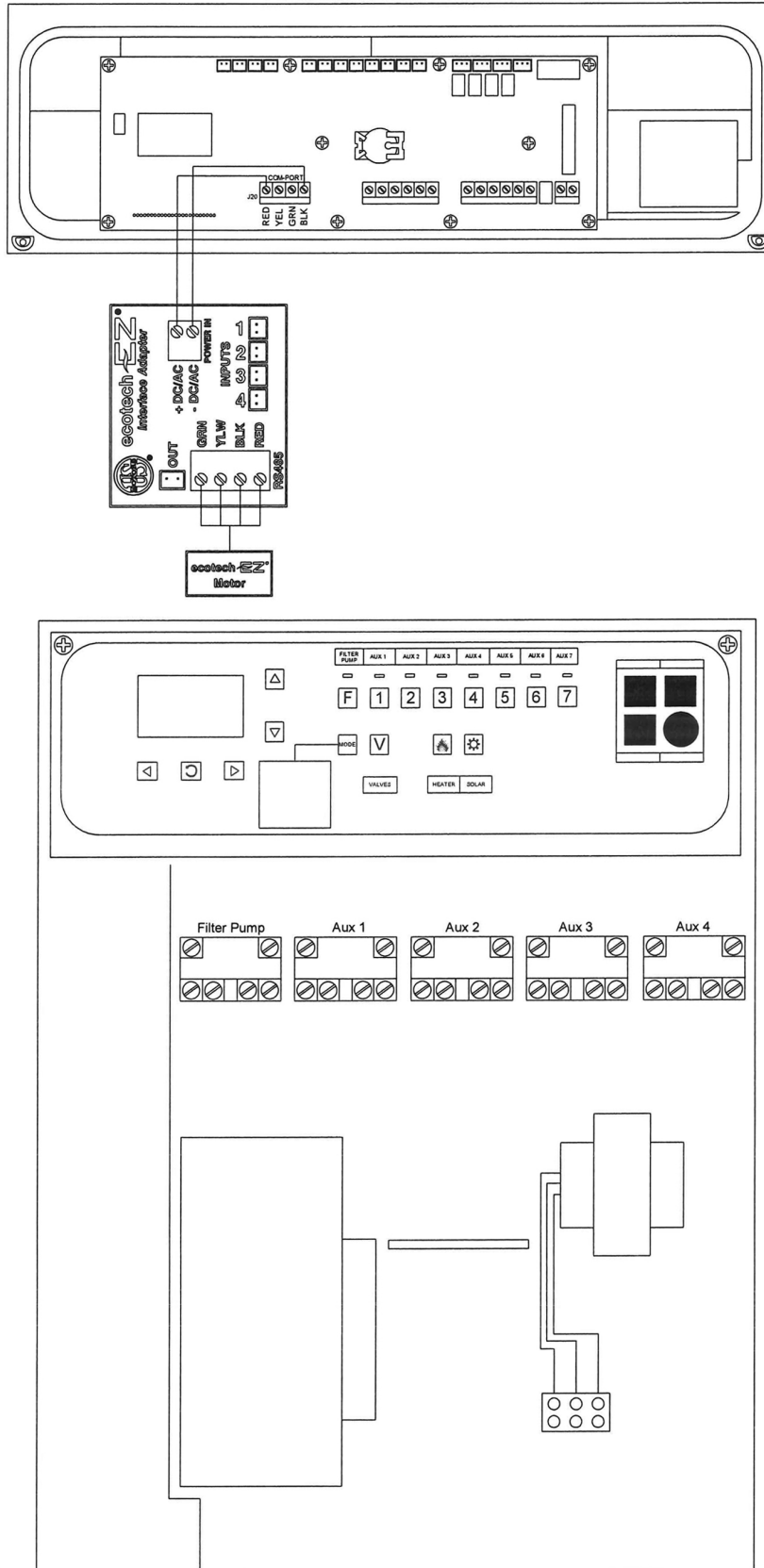
## Basic Configuration

This page provides a summary of the basic set-up of the **ecotech EZ® Interface Adapter** with the **ecotech EZ®** variable speed pool motor.

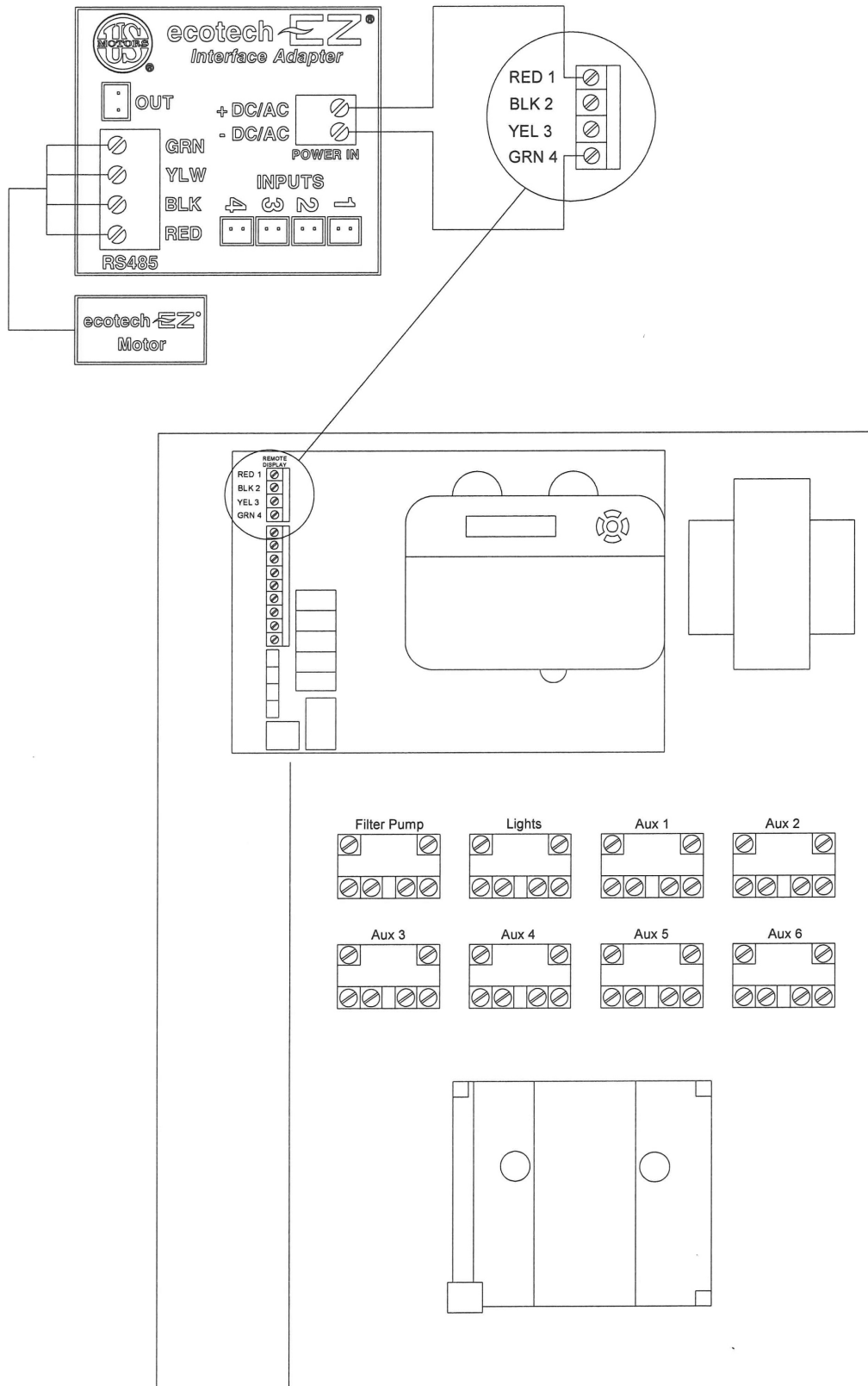
1. Connections for the interface adapter: **⚠ WARNING DO NOT EXCEED 24V TO ANY TERMINALS.**
  - 9-24 VDC or VAC (200mA max) power source (+DC/AC and –DC/AC terminals) can be supplied from the automation control system circuit board or an AC power transformer (not supplied)
  - One to four relay inputs (INPUT 1 through 4)
  - RS485 communication cable (Red, Yellow, Green, Black)
  - Low Voltage Relay Output
2. Connect low voltage power terminals (+DC/AC, -DC/AC).
3. Determine appropriate connections between interface adapter and pool automation control board. If more than one interface adapter “Flow Setting” is activated, the highest flow number activated will have priority. Time and day function will still operate on the ecotech EZ® motor/control but the Pool Automation System will override when one of the flow rates is activated on the ecotech EZ® interface adapter.
4. Connect RS485 cable to ecotech EZ® RS485 connection port.
5. Inputs 1-4 corresponds to custom flow settings 1-4 of ecotech EZ® motor/control. See ecotech EZ® motor/control manual for specific setup instructions.
6. OUT Relay is available as required to signal an external control for auxiliary load (for example, relay to a booster pump). This relay does not provide power to the external load, only a signal for switching power in an external circuit (9-24VAC/VDC, 200 mA Max). This output is “ON” when the motor speed is above 1600 RPM.
7. When the LED near the “POWER IN” is blinking, the interface adapter is communicating with the ecotech EZ® motor/control.  
**NOTE:** Power should be “ON” to both interface adapter and motor/control.

See pages 6-8 for common control connections.  
Verify voltages prior to making all connections.

# Pentair Pool® Control

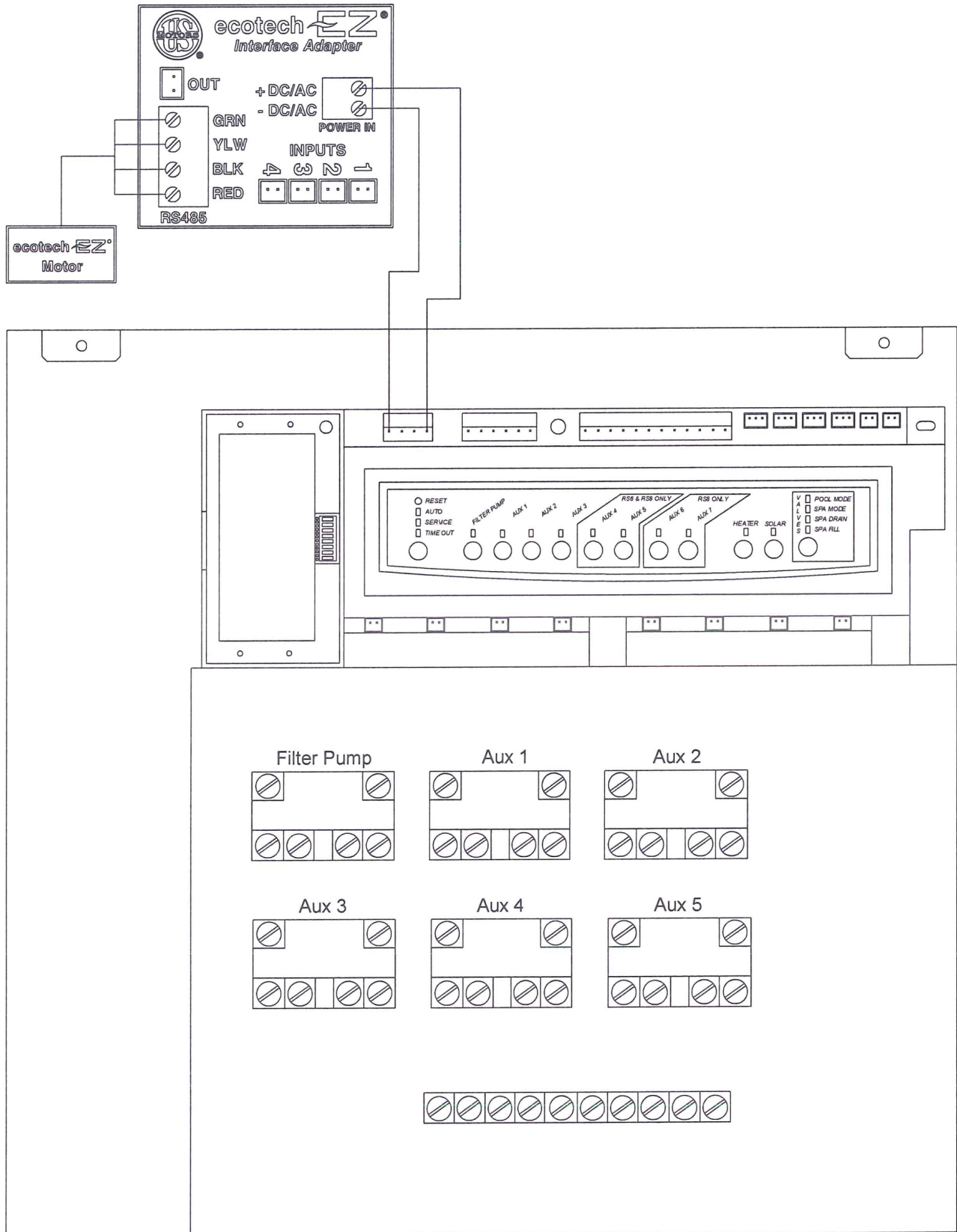


# Hayward Pool Products® Goldline® Control





# Aqualink® Control



## General Connection Instructions

**POWER:** Within the low voltage area of the pool automation, system identify a source of 9-24 VAC or VDC for interface power and connect to +DC/AC and -DC/AC terminals. This should be a continuous source of voltage. This can usually be supplied from the pool automation system, but a dedicated supply may be needed in some installations.

**INPUTS:** Connect to desired relay coil voltages (NOT RELAY OUTPUTS!) to control speed as desired. Inputs are low voltage, 9-24 VAC or VDC.

**OUTPUT:** Low voltage output that is on when motor speed is greater than 1600 RPM. This can be used to drive a relay for line voltage loads. Use of this output is optional.

## Interface Adapter Specifications

Size 3.75" x 2.5" x 1.0"  
Supply Voltage 9-24 VDC or VAC,  $\pm 10\%$ , 40 mA (typical)

Temperature Range:  
Operating 0°C to 50°C  
Storage -30°C to +80°C  
Relative Humidity 5% to 85%

Inputs:  
Auxiliary 1: 9-24 VDC or VAC,  $\pm 10\%$ , 5 mA (typical)  
Auxiliary 2: 9-24 VDC or VAC,  $\pm 10\%$ , 5 mA (typical)  
Auxiliary 3: 9-24 VDC or VAC,  $\pm 10\%$ , 5 mA (typical)  
Auxiliary 4: 9-24 VDC or VAC,  $\pm 10\%$ , 5 mA (typical)

Determine appropriate connections between interface adapter and pool automation control board. If more than one interface adapter "Flow Setting" is activated, the highest flow number activated will have priority. Time and day function will still operate on the ecotech EZ<sup>®</sup> motor/control but the Pool Automation System will override when one of the flow rates is activated on the ecotech EZ<sup>®</sup> interface adapter.

### Outputs:

MTR "ON": Switch Closure: 26.5 VDC or VAC MAX, 200 mA Maximum  
Closed when motor speed is greater than 1600RPM.

Please refer to ecotech EZ<sup>®</sup> manual for set-up and installation of the ecotech EZ<sup>®</sup> pool motor. A copy of the manual can be found at [www.nidec-motor.com/pool](http://www.nidec-motor.com/pool).



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