

# EXP-30 - Expansion Module



The EXP-30 is the expansion input/output (I/O) module for the Powerbase Platform. This module replaces a PLC and allows the user to customize system functions, without the need for complex programming.

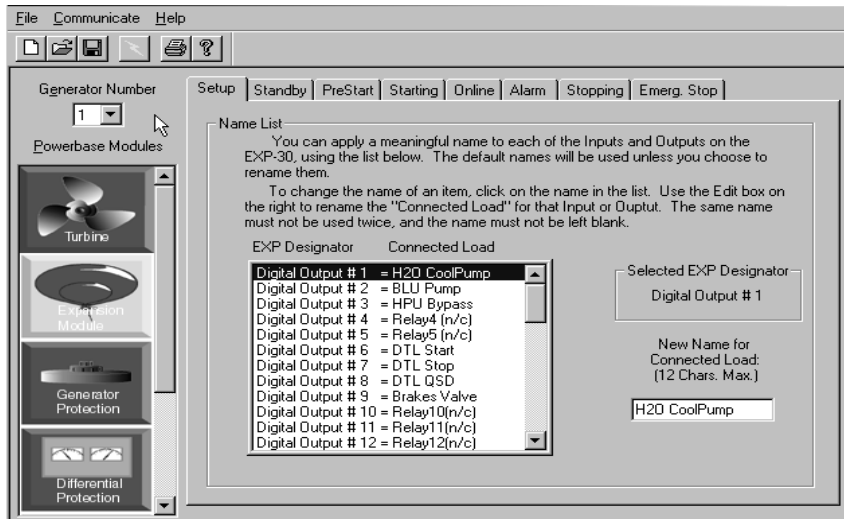
The EXP-30 provides the following input and outputs:

- 16 digital outputs
- 24 digital inputs
- 2 analog outputs
- 3 analog inputs

These input/outputs allow the user to connect outside equipment not directly controlled by the TCM-30/40 Module.

The priority menu system ties the new I/O functions into the TCM-30/40 program. To program the EXP-30, the user launches the Powerbase Setup Guide and enters basic English sentences, rather than complex computer or ladder logic code.

**Figure 1 Input/Output Functions Programmed with the Setup Guide for EXP-30**



When the system operates, the EXP-30 shadows each program step of the TCM-30/40 Module. Each new I/O may be assigned to control alarm, soft shutdown or emergency stop functions.

## EXP-30 Technical Specifications

EXP-30 Features	
<ul style="list-style-type: none"> <li>•16 digital outputs</li> <li>• dry contact, world universal voltage</li> <li>•24 digital inputs, dry contact, world universal voltage</li> <li>•3 analog inputs (4-20mA), 2 analog outputs (4-20mA)</li> <li>•basic English language programming, no programming ability required</li> <li>•expands TCM-30/40 functions to control most power station requirements</li> <li>•uses the Optocom (RS-485) bus to communicate with the TCM-30/40, GDI-20 and SCADA</li> </ul>	
Input/Outputs	
analog inputs	•3 externally wetted, 4-20mA, 8 bit resolution, earth referenced
analog outputs	•2 externally wetted, 4-20mA, 8 bit resolution, earth referenced
digital inputs	<ul style="list-style-type: none"> <li>•24, optically isolated, externally wetted inputs</li> <li>•shipped factory configuration for 120V or 240V nominal input (may be modified at the site)</li> <li>•120V setting: 100-130V AC or DC</li> <li>•240V setting: 200-260V AC or DC</li> </ul>
digital outputs	<ul style="list-style-type: none"> <li>•16 dry contact, S.P.S.T. relays</li> <li>•rated 16A @ 250VAC/30VDC resistive</li> <li>•8A @ 250VAC/30VDC inductive</li> <li>• max operating voltage: 380VAC, 125VDC</li> </ul>
Isolation/Communications	
<ul style="list-style-type: none"> <li>•high voltage, optically coupled proprietary Optocom (RS-485) communication interface between Powerbase Modules</li> <li>•1500 VAC high potential test isolation between bus and module</li> <li>•all logic circuits are ground potential</li> </ul>	
General	
power supply voltage	•world universal;100 to 240 VAC, 50/60 Hz or 110 VDC to 340 VDC
power supply current	•power supply current 0.4 amperes, AC or DC
operating temperature	• -10°C to 50°C, ambient air
storage temperature	• - 20°C to 75°C
humidity	•0 to 95%, non-condensing, conformally coated circuits
EMC/transient protection	•meets European EMC Directive 1997, including radiated conducted and immunity to EMC and electrical fast transients (IEC 801 and CISPR 11 and 14)
certification	•meets IEEE Std. 37.91-1985 and environmental testing to IEC requirements.
shipping weight	•less than 5 kg