# ControlWave Express

ControlWave® Express SCADA RTU provides exceptional performance and unique functionality for applications requiring low installation cost, very low power consumption, and space efficiency. ControlWave Express is a fixed I/O RTU with three serial and one optional Ethernet port for a wide range of remote area applications.

**CWEXP** (PC 856)

| MODEL & SEG | SPEC SHEET | DESCRIPTION | APPROVAL | SELECT |
|---|---|---|---|---|
| **A** | | **Packaging** | | **A** |
| 10 | | Basic RTU Panel Mount | UL/ATEX | 1 |
| | | Basic RTU 35 MM DIN Rail Mount | UL/ATEX | 2 |
| **B** | | **Certification** | | **B** |
| 20 | | UL Class I DIV II | UL/ATEX | 1 |
| | | UL, CE (With Protective Cover) **(Note 1)** | UL/ATEX/CE | 2 |
| **C D** | | **Processor   (CPU board has 2 PI/DI & 3 serial ports)** | | **C D** |
| 30 | | **Advanced CPU with gas calculations** | | |
| | | Ultra low power CPU (5-18V, Solar reg, AUX Out & RTD interface, 14 MHz) | UL/ATEX | A5 |
| | | Low power CPU without Ethernet (9-28V, Solar Regulator, Aux Out, 33 MHz) | UL/ATEX | A6 |
| | | CPU with Ethernet (9-28V, Ethernet, 33 MHz, **No Solar Regulator or Aux Out)** | UL/ATEX | A8 |
| | | **Standard CPU without gas calculations** | | |
| | | Ultra low power CPU (5-18V, Solar reg, AUX Out & RTD interface, 14 MHz) | UL/ATEX | S5 |
| | | Low power CPU without Ethernet (9-28V, Solar Regulator, Aux Out, 33 MHz) | UL/ATEX | S6 |
| | | CPU with Ethernet (9-28V, Ethernet, 33 MHz, **No Solar Regulator or Aux Out)** | UL/ATEX | S8 |
| **E** | | **I/O Options** | | **E** |
| 40 | | None | UL/ATEX | 0 |
| | | 2 PI/DI on Base CPU Base + 2 DI/DO, 4 DI, 2 DO, 2 HSC | UL/ATEX | 4 |
| | | 2 PI/DI on Base CPU Base + 2 DI/DO, 4 DI, 2 DO, 2 HSC, 3 AI | UL/ATEX | 5 |
| | | 2 PI/DI on Base CPU Base + 2 DI/DO, 4 DI, 2 DO, 2 HSC, 3 AI, 1 AO | UL/ATEX | 6 |
| **F G** | | **Application Program** | | **F G** |
| 50 | | No application program | N/A | 00 |
| | | Pump Control Application | N/A | 01 |
| **H** | | **Conformal Coating** | | **H** |
| 60 | | Without | UL/ATEX | 0 |
| | | With | UL/ATEX | 1 |

*Model Number: CWEXP -  A  -  B  -  C  D  -  E  -  F  G  -  H  - I*

**Note 1**: 9-pin 'D' connector for Comm port 1 cannot have a connector hood. Use (P/N 392843-03-0 $101) for cable without hood.

# ControlWave ExpressPAC

ControlWave® ExpressPAC is a pre-packaged SCADA RTU providing exceptional performance and unique functionality for applications requiring low installation cost, very low power consumption, and space efficiency. ControlWave Express is a fixed I/O RTU with three serial and one optional Ethernet port for a wide range of remote area applications. The enclosure supports a wide range of wired and wireless communication, display, solar and battery backup options.

**CWEPAC** **(PC 859)**

| MODEL & SEG | SPEC SHEET | DESCRIPTION | APPROVAL | SELECT |
|---|---|---|---|---|
| **A** | | **Integral Enclosure and LCD/Keypad** | | **A** |
| 10 | | 7½" x 11¾" Lexan with **LCD display** only, no Keypad | UL | 1 |
| | | 7½" x 11¾" Lexan, LCD, **2 Keys** | UL | 2 |
| | | 7½" x 11¾" Lexan, LCD, **25 Keys** | UL | 3 |
| | | 7½" x 11¾" Lexan, LCD, **No Display** | UL | 4 |
| **B** | | **Power System ( Note 1 )** | | **B** |
| 20 | | None - External Power Source is Necessary | UL | 1 |
| | | 7.2 V Lithium Battery, Single | UL | 2 |
| | | 7.2 V Lithium Battery, Dual | UL | 3 |
| | | 6 V, 7 AH Lead Acid Cell Battery and 6 V, **1 W** Solar Panel System | UL | 4 |
| | | 6 V, 7 AH Lead Acid Cell Battery and 6 V, **4.3W** Solar Panel System | UL | 5 |
| | | 12 V, 7 AH Lead Acid Cell Battery and 12 V, 4.5 W Solar Panel System | UL | 6 |
| **C D** | | **Processor (CPU board has 2 PI/DI & 3 serial ports)** | | **C D** |
| 30 | | **Advanced CPU with gas calculations** | | |
| | | Ultra low power CPU (5-18V, Solar reg, AUX Out & RTD interface, 14 MHz) | UL | A5 |
| | | Low power CPU without Ethernet (9-28V, Solar Regulator, Aux Out, 33 MHz) | UL | A6 |
| | | CPU with Ethernet (9-28V, Ethernet, 33 MHz, **No Solar Regulator or Aux Out)** | UL | A8 |
| | | **Standard CPU without gas calculations** | | |
| | | Ultra low power CPU (5-18V, Solar reg, AUX Out & RTD interface, 14 MHz) | UL | S5 |
| | | Low power CPU without Ethernet (9-28V, Solar regulator, Aux Out, 33 MHz) | UL | S6 |
| | | CPU with Ethernet (9-28V, Ethernet, 33 MHz, **No Solar Regulator or Aux Out)** | UL | S8 |

*Model Number: CWEPAC - A - B - C D - E - F - G H - J - K - L M N*

**Note 1:** Power System Selections 2, 3, 4, & 5 can only use 5 - 18 V CPUs A1 & S1.

# ControlWave ExpressPAC (Cont.)

**CWEPAC**            **(PC 859)**

| MODEL & SEG | SPEC SHEET | DESCRIPTION | APPROVAL | SELECT |
|---|---|---|---|---|
| **E** | | **I/O Configuration (Note 1)** | | **E** |
| 40 | | No I/O module - Base CPU 2 DI / PI Only | UL | 0 |
| | | 2 PI/DI on Base CPU + 2 DI/DO, 4 DI, 2 DO, 2 HSC | UL | 4 |
| | | 2 PI/DI on Base CPU + 2 DI/DO, 4 DI, 2 DO, 2 HSC, 3 AI | UL | 5 |
| | | 2 PI/DI on Base CPU + 2 DI/DO, 4 DI, 2 DO, 2 HSC, 3 AI, 1 AO | UL | 6 |
| **F** | | **Mounting** | | **F** |
| 50 | | Pole mount (pipe clamp and brackets) | UL | 1 |
| | | Panel mount (with 4 fastening ears) | UL | 2 |
| **G H** | | **Application Program** | | **G H** |
| 60 | | None | UL | 00 |
| | | Pump Control Application | UL | 01 |
| **J** | | **Hazardous Area Certification** | | **J** |
| 70 | | None | UL | 0 |
| | | Class I, Division 2 Non-incendive (UL/CUL - NI) | UL | 1 |
| **K** | | **Radio Cable/Mounting Hardware and Polyphaser Option** | | **K** |
| 80 | | No Radio | UL | 0 |
| | | Without Polyphaser | UL | 1 |
| | | With Polyphaser | UL | 2 |
| **L M N** | | **Radio or Modem Option** | | **L M N** |
| 90 | | None | UL | 000 |
| | | Dial-line Modem (Cermatek) | UL | 001 |
| | | 1200 Baud leased line modem | UL | 002 |
| | | Standard FreeWave Radio | UL | 103 |
| | | Standard FreeWave Radio Ready | UL | 104 |
| | | Standard MDS Transnet Radio | UL | 201 |
| | | Standard Transnet Radio Ready | UL | 202 |
| | | Standard MDS 9810 Radio with Diag | UL | 301 |
| | | Standard MDS 4710A Radio with Diag | UL | 310 |
| | | Standard MDS 4710B Radio with Diag | UL | 311 |
| | | Standard MDS 9710A Radio with Diag | UL | 320 |
| | | Standard MDS 9710B Radio with Diag | UL | 321 |
| | | Standard MDS 4710 A/B, 9710 A/B, 9810 Radio Ready | UL | 322 |
| | | Standard MDS EntraNet Radio Ready | UL | 404 |
| | | Standard MDS iNet 900 Radio Ready | UL | 423 |

*Model Number: CWEPAC -* <u>*A*</u> *-* <u>*B*</u> *-* <u>*C*</u> <u>*D*</u> *-* <u>*E*</u> *-* <u>*F*</u> *-* <u>*G*</u> <u>*H*</u> *-* <u>*J*</u> *-* <u>*K*</u> *-* <u>*L*</u> <u>*M*</u> <u>*N*</u>

**Note1:** Don't forget to specify a "1" or "2" for MODEL 80 if a radio is selected in 'LMN'.

**Note2:** All radios are located on the Radio Bracket in the ExpressPAC enclosure.