

# Energy Flow Computers

for metering steam & heated/chilled water



**Steam**



**Chilled Water**



**Heated Water**



## Metering Steam & Heated/Chilled Water

With KEP Utility & Energy Flow Computers

## SUPERtrol II (ST2) Family of Flow Computers for Energy Metering of Steam and Heated/Chilled Water



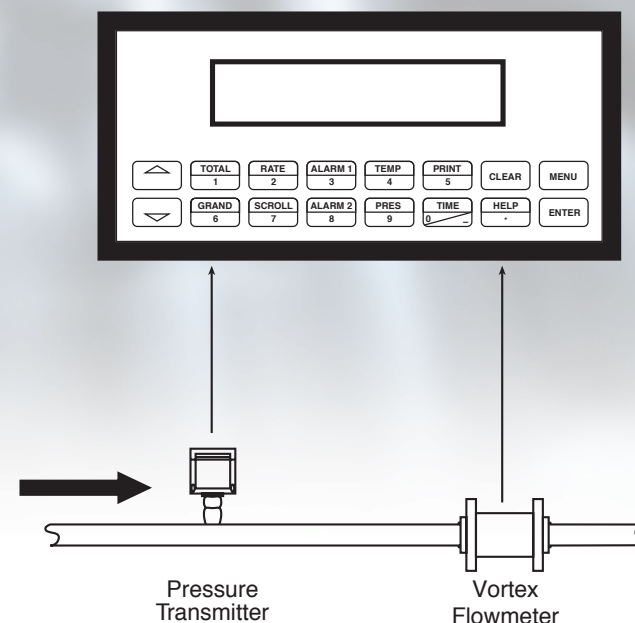
Several Engineering Specials (ES) are available for the SUPERtrol II flow computer designed specifically for utility metering. These special versions of the ST2 are equipped with advanced features and options customized for specific applications of steam and heated/chilled water metering.

### ES749 Utility Metering Flow Computer

- ▶ Supports All Steam and Chilled/Heated Water Flowmeters
- ▶ Volume, Mass and Energy Calculations
- ▶ Menu Selectable Hardware & Calculations
- ▶ Two Line Display - Choice Of: LCD, OLED, VFD
- ▶ Isolated Outputs Standard (Analog, Pulse, Relays)
- ▶ RS-232 Port and Windows Configuration Software Standard
- ▶ Three Communication Card Options Available:
  - RS-485 Modbus RTU
  - Multi-protocol
  - LonWorks
- ▶ Internal Data Logging (Optional TrolLink PC Software)
- ▶ DDE/OPC Server and HMI Software Available
- ▶ Large Selection of Enclosure Styles
- ▶ Variety of Operating Voltages

### ES762 Energy Metering with Additional Analog Inputs & Totalizers

- ▶ ES762 Offers The Same Features as ES749 Plus The Following:
  - ▶ Two Auxiliary 4-20mA Analog Inputs
  - ▶ Four Auxiliary Pulse Inputs and Totalizers for Secondary Measurement of Total from other meters





## ES759 Designed for Metering Seasonal Heating/Cooling Systems

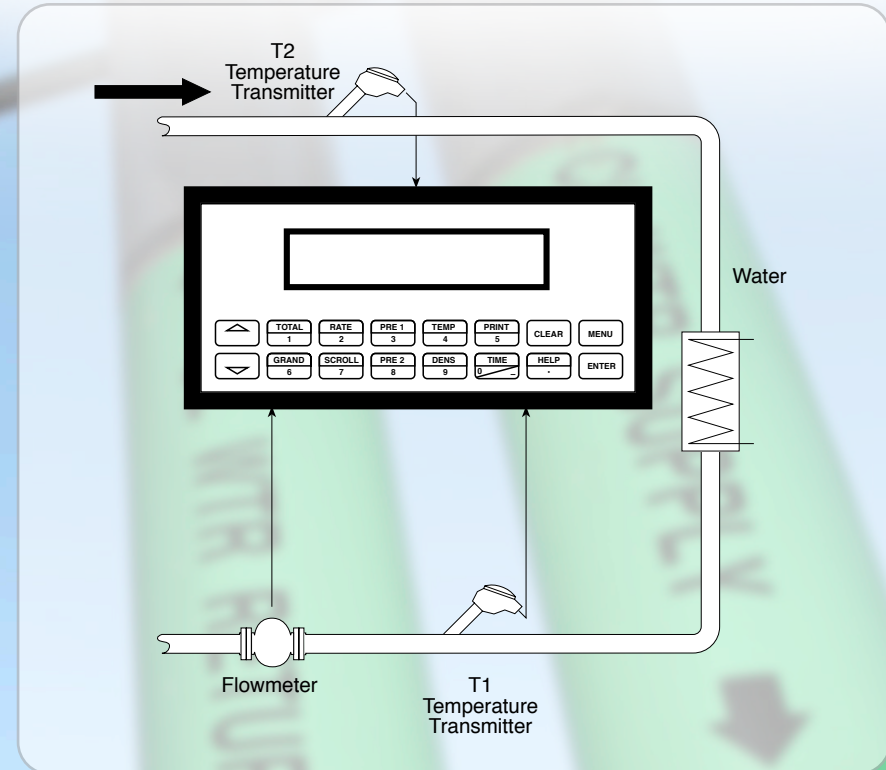
- Utility Metering - Heating/Cooling, Chilled Water
- Press TOTAL button to view Heating Total, Press GRAND button to view Cooling Total (Liquid Delta Heat Equation)

### DESCRIPTION

Providing many of the same functions as the ES749, the Model ES759 is designed for more specialized applications in combined heating/cooling systems, where the same system is seasonally used for heating during part of the year and cooling during other periods. Separate totalizers are provided for heating and cooling

## ES761 Designed for Net Energy Applications using Multi-Variable Transmitters

- Computes Net Energy (Steam In - Condensate Out) Flowmeter & Temperature or Pressure on Saturated Steam Input and Temperature on Condensate Return Output



## Mounting Styles Several Mounting Options Are Available For All KEP Flow Computers



Panel Mount  
(Option P)



NEMA 12/13 Wall  
Mount w/ Clear Cover  
(Option W)



NEMA 4X Wall  
Mount (Option N)



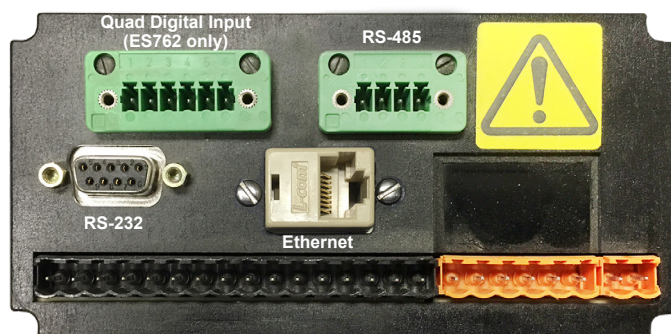
## FEATURES

- ▶ Supports: BACnet IP, BACnet MS/TP, Metasys N2, Modbus TCP, AB Ethernet IP, AB DF1, LonWorks
- ▶ Easy to configure via the Web Interface.
- ▶ Internal communication card eliminates the need for external protocol converters.
- ▶ Dedicated internal LonWorks is also available
- ▶ Dedicated internal RS485 Modbus RTU is also available

## DESCRIPTION

The multi-protocol communication card is an internal, high performance, Building Management System communication solution for the ST2 flow computer family. The card provides an instant interface, enabling the KEP flow computers to communicate with multiple BMS protocols, including:

- ▶ BACnet MS/TP
- ▶ BACnet IP
- ▶ Modbus TCP
- ▶ Metasys N2
- ▶ AB DF1
- ▶ AB EtherNet/IP
- ▶ LonWorks (Separate Option Card)
- ▶ Modbus RTU (Separate Option Card)



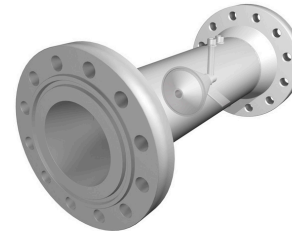
Rear view of ST2 case.  
Communication ports are available for RS-485 and Ethernet



**Vortex**



**Magnetic**



**V-Cone**



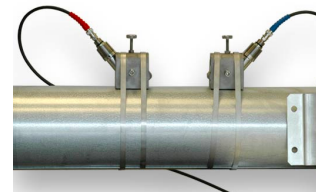
**Accelabar**



**Insertion Mag**



**Ultrasonic**



**Clamp On Ultrasonic**



**Turbine Meters**



**Target Meter**



**Orifice**



**Gilflo Ilva**



**Insertion Vortex**



## Enclosures NEMA4X / IP65 Enclosure Options



### MS811 NEMA 4X/IP65 Enclosures For SUPERtrol Cases

- ▶ Compatible with all Standard Size "trol" & SUPERtrol Products
- ▶ Meets NEMA 4X/IP65 Specs.
- ▶ Quick-Release Latches
- ▶ Hinged Cover
- ▶ Light Weight



### MS-799 Large NEMA 4X Housing with Hinged Cover

- ▶ Molded fiberglass polyester has outstanding chemical and temperature resistance qualities and exhibits excellent weatherability and physical properties
- ▶ Accommodates Flow Computer(s) and Accessories (printers, converters, etc.)
- ▶ Seamless foam-in-place gasket assures watertight and dust tight seal
- ▶ Stainless steel mounting brackets and attachment screws are provided with each enclosure
- ▶ Hinge is corrosion-resistant type stainless steel
- ▶ Padlock provisions included on each quick release latch



### MS816 Large NEMA 4X/IP65 Enclosures Accommodates Several Products

- ▶ Large Size: 16"(H) x 14"(W) x 8"(D)
- ▶ Can Accommodate up to Four SUPERtrol Series Products with Accessories Mounted Inside
- ▶ Meets NEMA 4X/IP65 Specs.
- ▶ Quick-Release Latches (standard)
- ▶ Hinged Cover (on left)
- ▶ Light Weight
- ▶ Options:  
Sub Panel  
DIN Rail  
Pre-wired to DIN Rail Terminal Block

### Enclosure Options

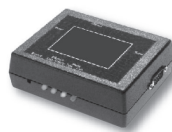
Select enclosure models are available with the following options:



- ▶ Assembly at KEP - Units mounted in enclosures with optional accessories and can be prewired by KEP technicians
- ▶ Subpanel with DIN rail and/or terminal block
- ▶ Power Disconnect Switch

Available On MS799, MS811 and MS816

## Gateways Provide Support for Modbus RTU, Modbus TCP and BACnet/IP Protocols



### Authorized Distributor



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