**NEMAtrol**

### Features

- Compatible with all Standard Size "trol", SUPERtrol & 1/8 DIN Products
- Meets NEMA 4X/IP65 Specs.
- Quick-Release Latches
- Light Weight

### Application:

Ideal for use in most petro-chemical plants, sewage plants, food processing areas, packing plants, electro-plating plants, etc.

### Construction:

- Molded fiberglass reinforced polyester material has excellent chemical resistance and outstanding physical properties.
- Fiberglass material is easily punched, drilled, filed or sawed.
- Oil-resistant gasket attached with oil-resistant adhesive.
- The enclosures have corrosion-resistant fiberglass hinges and spring-loaded fiberglass latches attached with monel screws.

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Enclosure Value</th>
<th>ASTM Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Strength</td>
<td>17,000 PSI</td>
<td>D-790</td>
</tr>
<tr>
<td>Heat Distortion</td>
<td>400° F</td>
<td>D-648</td>
</tr>
<tr>
<td>Water Absorption (24hrs)</td>
<td>0.5%</td>
<td>D-570</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>6,500 PSI</td>
<td>D-651</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.8</td>
<td>D-792</td>
</tr>
<tr>
<td>Flammability</td>
<td>94-5V</td>
<td>UL94</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>400 V,P,M</td>
<td>D-149</td>
</tr>
<tr>
<td>Arc Resistance</td>
<td>180 Sec.</td>
<td>D-495</td>
</tr>
</tbody>
</table>

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMAtrol4X</td>
<td>(NEMA 4X enclosure for all standard 'trol units 7.365” x 2.495” cutout)</td>
</tr>
<tr>
<td>NEMAtrol 4x0</td>
<td>(no cutout)</td>
</tr>
<tr>
<td>NEMAtrol 4x1</td>
<td>(1 cutout)</td>
</tr>
<tr>
<td>NEMAtrol 4x2</td>
<td>(2 cutouts)</td>
</tr>
<tr>
<td>NEMAST4X</td>
<td>(NEMA 4X enclosure for SUPERtrol series)</td>
</tr>
<tr>
<td>NEMAST 4x1</td>
<td>(1-5.43” x 2.68” cutout for SUPERtrol series)</td>
</tr>
<tr>
<td>NEMAST 4x2</td>
<td>(2-5.43” x 2.68” cutout for SUPERtrol series)</td>
</tr>
<tr>
<td>NEMA-1/8DIN</td>
<td>(NEMA 4X enclosure for all 1/8 DIN size units)</td>
</tr>
<tr>
<td>NEMA-1/8DIN 4x0</td>
<td>(no cutout)</td>
</tr>
<tr>
<td>NEMA-1/8DIN 4x1</td>
<td>(1 cutout)</td>
</tr>
<tr>
<td>NEMA-1/8DIN 4x2</td>
<td>(2 cutouts)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>W</th>
<th>L</th>
<th>K</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA-1/8DIN</td>
<td>7.86</td>
<td>8.97</td>
<td>1.00</td>
<td>4.38</td>
</tr>
<tr>
<td>NEMAtrol4X &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMAST4X</td>
<td>9.86</td>
<td>12.97</td>
<td>1.75</td>
<td>5.13</td>
</tr>
</tbody>
</table>
XHV Series

Features:
- Available for 1/8 DIN and DIN 144 x 72 mm Cases
- Meets NEMA 7 & 4 Specs.
- For use in Class 1, Division 1, Groups C & D
- For use in Class 2 & 3, Division 1, Groups E, F & G
- UL, CSA Approved
- Magnetic Reset Switch Available

Specifications:
This housing is designed and manufactured in compliance with UL Standard No. 886 and CSA Standard C22.2 No. 30-M1986 for use in Class I, Division I, Groups C & D and Class II an III, Division I, Groups E, F & G hazardous locations.

Certified by:
ADALET
UL (file# E81696)
CSA (file # LR27991)

The housing is made from cast aluminum and sealed to meet NEMA 7 and 4 specifications.

Empty weight:
XHV = 19 lbs.
XHVD = 22 lbs.

Ordering Information

Example: XHV 7/4 A A S1

Series:
XHV 7/4 (8.5" high for MRT, MB, etc.)
XHVD 7/4 (11.5" high for Supertol 1 and 2)

Mounting Sub Panel:
A = Panel for (1) 1/8 DIN unit (MRT, etc.)
B = Panel for (2) 1/8 DIN units (MRT, etc.)
C = Panel for (1) DIN 144 x 72mm unit (ST1, ST2)

Assembly:
A = Assembled by: Flowmetrics
X = No Assembly

Options:
S1 = 1 Magnetic Reset Switch and Magnet
S2 = 2 Magnetic Reset Switches and Magnet

Accessories:
XHVA-1 = Magnetic Switch
XHVA-2 = Actuating Magnet

Note: When placing the order, the unit part number directly following the XHV part number on the Purchase Order is the one that will be assembled into the XHV housing.

Dimensions:

http://www.flowmetrics.com 800-356-6387
Features:

- Compatible with all Standard Size "trol" and "SUPERtrol" Family of Products
- Meets NEMA 7 & 4 Specs.
- For use in Class 1, Division 1, Groups C & D
- For use in Class 2 & 3, Division 1, Groups E, F & G
- FM, CSA Approved
- Specials Available for Custom Conduit Entries
- Empty Weight: 26 lbs.

Specifications:

This housing is designed and manufactured in compliance with UL Standard No. 886 and CSA Standard C22.2 No. 30-M1986 for use in Class I, Division I, Groups C & D and Class II an III, Division I, Groups E, F & G hazardous locations. It is certified by:

- ADALET
- FM (file# JI 0V2A6.AE)
- CSA (file # LR36172).

It is made from cast aluminum and sealed to meet NEMA 7 and 4 specifications. This is accomplished by neoprene gaskets retained in machined grooves in the covers and buttons.

The front button actuators have the same easy-to-use keypad layout. 6 blind threaded holes are provided for mounting with 2 each 1/2" NPT openings for wiring.

To install a unit, the 16 front 3/16" allen screws must be removed and the "trol" mounted in the sub panel provided.

If the assembly option is ordered, only the 8 back cap screws need to be removed to complete the wiring to an optional pluggable connector.

### XTROL 7/4*

<table>
<thead>
<tr>
<th>Example</th>
<th>XTROL7/4</th>
<th>BT2</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>XTROL7/4 (housing only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Hardware</td>
<td>(Includes labels and two piece connector)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BT2 = BATCHtrol II</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KRT = KEPtrol R/T</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MFC = Mass Flow Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ST1** = SUPERtrol-I (consult factory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ST2** = SUPERtrol-II (consult factory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X = No Mounting Hardware</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONTROLLERS SOLD SEPARATELY**

Assembly

- A = Assembled by Flowmetrics
- X = No Assembly

Note: When placing the order, the unit part number directly following the XTROL part number on the Purchase Order is the one that will be assembled into the XTROL housing.

** See also XHV series enclosure.
Assembly:
If HOUSING ONLY is purchased, all front allen screws and front must be removed. Remove four allen screws so that the 'trol product can be mounted in the internal bracket (gasket not used; top of bracket is the thinner side). Wiring should be done before installing 'trol in the housing unless the MOUNTING HARDWARE with two piece connector is purchased. If the unit is assembled by Flowmetrics, only remove the back plate. The pluggable connector can be wired at back.
P1000

Features
- Dot Matrix Printer
- Uses Standard 2.25" Plain Paper Roll
- 24 or 40 Column Printing
- Standard Epson™ Ribbon
- Internal 2KB Buffer
- RS232 With Selectable Baud Rate

Applications:
- Logging data from Flowmetrics instruments
- Remote messages printing
- Real-time-clock (optional) for time and date stamp
- Plain paper for long lasting record keeping
- Direct recording measurements from digital hand tools or electronic scales.

Description:
The P1000 printer is a top quality impact dot matrix micro printer. It is small, light weight, and low in cost, but extremely powerful in performance. This model is portable and designed for applications where regular desktop printers are unnecessary and space is limited.

Specifications:
Character Types:
- 448 defined characters include:
  - 96 standard ASCII characters
  - Math symbols
  - Printing symbols
  - Block graphic characters
  - 32 user defined characters

Print Method:
- Impact Dot Matrix

Character:
- Standard characters 5x7 dot matrix compositions:
  - Block graphic char. 6x8 dot matrix
  - User definable char. 6x8 dot matrix

Dimension:
- 7" x 4" x 3.25"

Baud Rate:
- Selectable baud rate & parity setting by key combinations (1200,2400,4800,9600)

Print Speed:
- 40 lines per minute

Control Commands:
- 35 codes, IBM/EPSON

Input Buffer:
- 2k bytes, expandable to 4k

Interface:
- RS232C, 25 pin D-shape type connector

Power:
- 7.5 volt DC input, max. current 750mA with Internal Battery Pack
- 110V AC/DC to 7.5V DC adapter supplied.

Paper:
- Plain adding machine typepaper roll, internal mounting up to 130’x2.25" size roll

Ink Ribbon:
- Porelon ERC 09 or equivalent

Options:
- 220V AC/DC adapter
- Real Time Clock for time and date stamp at command

Ordering Information

<table>
<thead>
<tr>
<th>EXAMPLE</th>
<th>P1000</th>
<th>1</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>P1000 Printer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>1 = 110V AC adaptor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>C = RealTime Clock (not required for ST1, ST2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td>P1AR = Ink Ribbon</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1AA230 = 230V Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1AA110 = 110V Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1AC25M9MC = 6’, Printer cable for ST1 &amp; ST2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1AC25M9FC = 6’, Printer cable for MRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1AC25M25MS = 6’, Printer cable for all ‘trols</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.flowmetrics.com 800-356-6387
Description
KEPware's 32 bit device driver works in conjunction with KEPware's DDE/OPC Server to exchange data between DDE or OPC clients and SUPERtrol devices. Block reads are optimized automatically. Block polling rates are defined by scanning blocks at the rate of the fastest tag scan rate in the block.

Part Number:
KEPS-KEP1-32: KEP RS232 for SUPERtrol 1 and SUPERtrol 2 • 32 Bit OPC/DDE Server, Now with Modem Support
KEPS-MBS32: SUPERtrol with RS-485 & MODBUS RTU Support

Supported Devices
• Multidrop Supported
• SUPERtrol I and SUPERtrol II

Supported Data
KEPware's 32 bit KEP SUPERtrol device driver supports: Process Variables, Totalizers, Error Status, and Action Routines may be read or activated.

Process Variables: Heat, Mass, Corrected Volume, Volume, Temperature, Pressure, Density and similar items as well as Raw Input & Output signals.

Totalizers: Resettable & non-resettable total of: Heat, Mass, Corrected Volume and Volume

Action Routines: Initiate Print, Clear Totalizer, Clear Alarms, Start Batch, Stop Batch and many others

Data Types: Boolean - bit, Word - unsigned 16 bit, Short - signed 16 bit, Long - signed 32 bit, DWord - unsigned 32 bit, Float - floating point 32 bit, Double - floating point 64 bit, String - null terminated ASCII

Driver System Requirements
• Windows 95, Windows 98 and Windows NT 3.51 or better with 16MB RAM minimum.

Network Configuration Options

Multiple KEPServers can share data with other networked PC's and with local Clients. DDE/OPC compliant applications can send data from the KEPServer.
**Features**

- Operates on All Telephone Lines
- RS-232 Powered from SUPERtrol
- 2400 BPS Operation
- Automatic Fallback
- Compatible with All Communications Software
- Automatic Answer
- Tone & Pulse Dialing
- Compact Wall Mount Enclosure
- FCC Approved

**Description:**

The MPP-2400N Modem is ultra-compact and easy to install. It needs no batteries or AC power because it’s designed to run on the DC power provided from the SUPERtrol interface to which it attaches.

The Modem operates at speeds up to 2400 bps. If you are connected to a slower speed modem on the other end of the line, the MPP-2400 automatically “falls back” to match the speed of the slower modem so your data transmission is not interrupted.

The MPP-2400 also features automatic answer, so it can operate unattended.

It will operate over rotary or pushbutton lines since it works in tone or pulse dialing modes.

The Modem is very small and simple to install. It offers a standard DB-9 male connector for your RS-232 port connection and an RJ-11 jack for your telephone cabling.

The MPP-2400 complies fully with the Hayes Standard AT Command Set and the ITU V.22 bis and V.22 standards, as well as Bell 103 and Bell 212A protocols.

**SPECIFICATIONS:**

- **Operation:** Full- or Half-Duplex
- **Standards:** ITU V.22, V.22 bis, Bell 103/212A
- **Interface:** RS-232/V.24
- **Baud Rate:** 2400, 1200, 300 bps
- **Command Set:** AT compatible
- **Dialing:** Tone and Pulse
- **Transmit Level:** -12 dBm
- **Receive Sensitivity:** -70 dBm
- **Dropdown Level:** -43 dBm
- **Operating Temp.:** 32 to 104 °F (0 to 40 °C)
- **Storage Temp.:** -40 to 212 °F (-40 to 100 °C)
- **Humidity:** 10 to 95% (non-condensing)
- **Connectors:** (1) DB-9 male, (1) RJ-11 female
- **Power:** 7-12VDC (RS-232 pins 8 & 9, 75mA)
- **Size:** 3.0”H x 5.1”W x 2.4” D
- **Weight:** 0.5 lb.

**Ordering Information**

<table>
<thead>
<tr>
<th>EXAMPLE</th>
<th>MPP2400N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>MPP-2400N Wall Mount, Port Powered Modem</td>
</tr>
<tr>
<td></td>
<td>MPP-2400 Without Enclosure</td>
</tr>
</tbody>
</table>

http://www.flowmetrics.com 800-356-6387
Industrial Two Way Pager
Wireless Data Transceiver

• Confirmed Message Delivery
• Check Meter Readings Over Internet or Pager

SPECIFICATIONS:
Antenna: Internal Dipole antenna
Optional External Antenna and Antenna Mounting Kit
Accessory (or customer supplied)
Antenna Connection: External Female SMA Connector
Transmitter Specifications
Frequency: ReFLEX NBPCS Networks
RF Power Output (901-902MHz)
at Antenna Port
9.6 W
Transmit Data Bit Rate: ReFLEX 25
9600
ReFLEX 50
9600
Frequency Stability
1 ppm on transmit
Receiver Specifications
Frequency
929-942 MHz
Receive Data Bit Rate
6400 bps
Receiver Sensitivity
-115 dBm
Serial Input Connection:
Connector: DB9-M
Electrical: RS-232 with power connection
Protocol: Motorola CLP − Communications Linking Protocol
Power Consumption:
Primary Voltage: 7-12 VDC
Standby/Transmit Power:
6 VDV Sealed Battery
Standby Operation:
50 mA
Receive:
150 mA
Transmit:
1.5 A
Battery:
Rechargeable battery provided
Reverse Polarity Protected
Overcurrent Protected
EMC filtered

Environmental:
Enclosure Rating:
NEMA-4X
Dimensions:
3.5" x 4.75" x 8"
Operating Temperature:
0 to +70°C
Storage Temperature:
-40 to +85°C
Humidity:
0-95% Non Condensing
Approvals:
FCC
Mounting Cautions and Hazards:
Mount antenna in a location where people will not come within 12" during use

Features
• Wireless Communications Over ReFLEX Two Way Paging Network
• Compatible with SUPERtrol II Flow Computers
• Request Information From SUPERtrol II on Demand, by Exception or on a Scheduled Basis
• Low Cost Solution for Moderate Message Lengths
• Up to 500 Bytes of Data per Transmission

APPLICATIONS:
Remote Wireless Metering Applications
Fixed Telemetry
Call Out/Call In capabilities to a host system

DESCRIPTION:
The TWP is a two way wireless data transceiver intended for applications where ReFLEX Two-Way Wireless Messaging will be used in remote metering applications using SUPERtrol II flow computers.

The TWP is intended for fixed telemetry applications requiring moderate message length wireless communications.

TWP can initiate a transmission as well as receive and store a transmission. Messages are loaded/sent and received/read using a RS-232 Port and CLP communication linking protocol commands.

USER WIRING TERMINATIONS:
RS-232 Port Pin Assignment
1 DO NOT USE
2 RECEIVE (IN)
3 TRANSMIT (OUT)
4 DO NOT USE
5 SIGNAL GROUND
6 DO NOT USE
7 RTS
8 DC POWER −
9 DC POWER +

Ordering Information

<table>
<thead>
<tr>
<th>Series</th>
<th>TWP</th>
<th>N</th>
<th>W</th>
<th>6ST2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWP = Two Way Pager</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N = NEMA4X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X = None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W = Internally mounted Dipole Whip (std)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R = Internal Radome with 5’ Antenna Cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interconnecting Cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6ST2 = 6 foot ST2 Cable (other lengths available)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWP-AMK = Antenna Mounting Kit for Radome Antenna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.flowmetrics.com 800-356-6387