DESCRIPTION  The GP-4™ and Mark-4™ Yo-Yo™ sensors are designed to provide accurate, reliable inventory management information for tanks and silos.

The GP-4 is housed in a NEMA 4 enclosure. The Mark-4 Yo-Yo sensor is housed in a NEMA 4/7/9 enclosure. The Bindicator® remote display/programmer can request readings, monitor up to 99 GP-4 and Mark-4 sensors, and program silo parameters. The display/programmer is used to configure a single sensor or a whole system. An adjustable autotimer allows the user to set automatic measurement cycles ranging from 2 minutes to 1 week. While in operating mode, the display will show the sensor address, sensor name, measurement in the specified units, percentage, display mode and the status of the current device. The display can be used with GP-4 Display/Programmer or Bindicator ORB™.

HOW TO ORDER

FEATURES AND BENEFITS

Silos up to 100 ft (30.5 m)
• Large range of silo heights can be accommodated
1cm (0.39 inches) Resolution
• Accurate readings
Isolated 4-20 mA Output with Adjustable Span (Reversible)
• No loop isolator is required when connecting to a PLC or DCS
RS-485 Communication
• MODBUS protocol
Remote Display Programmer with Keypad
• 4-line x 20-character backlit LCD display
• Programmable sensor names and ranges
• Enable/Disable network addresses
# SPECIFICATIONS

<table>
<thead>
<tr>
<th>FUNCTIONAL</th>
<th>MARK-4/GP-4 YO-YO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Power</td>
<td>115 VAC or 230 VAC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>115 VAC, 50/60 Hz, 32 watts (operating), 4 watts (quiescent) (with heater add 10 watts)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>32° to 120° F (0° to 49° C); with heater -31° to 120° F (-35° to 49° C)</td>
</tr>
<tr>
<td>Output</td>
<td>MODBUS, Analog 4-20 mA optically isolated (user sourced) into 600 ohms max</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatability</td>
<td>2 cm (0.8 in)</td>
</tr>
<tr>
<td>Measurement Span</td>
<td>Up to 100 ft standard</td>
</tr>
<tr>
<td>Automatic Timer</td>
<td>From 2 minutes to 9999 minutes (approx. 1 week)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>3” NPT</td>
</tr>
<tr>
<td>Conduit Entry</td>
<td>GP-4: 2 each 3/4” NPT, Mark-4: 3 each 3/4” NPT</td>
</tr>
<tr>
<td>Air Purge Connection</td>
<td>1/4” NPT</td>
</tr>
<tr>
<td>Enclosure Material</td>
<td>GP-4: Minlon® frame, low density polyethylene cover Mark-4: Polyester coated cast aluminum</td>
</tr>
<tr>
<td>Enclosure Rating</td>
<td>GP-4: NEMA 4 Mark-4: NEMA 4/7/9</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>GP-4: 13 lbs (6 kg) Mark-4: 26 lbs (12kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Heater</td>
<td></td>
</tr>
<tr>
<td>YoYo Display</td>
<td></td>
</tr>
<tr>
<td>ORB</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPROVALS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark-4</td>
<td>FM (US) - XP Class I, Division I, Groups C and D; T5, Ta = 60° C DIP Class II, III, Division I, Groups E, F, and G; T5, Ta = 60° C; Type 4 CSA - Class I, Groups C and D; Class II, Groups E, F and G; Class III; Type 5; Type 4 ATEX</td>
</tr>
<tr>
<td>GP-4</td>
<td>FM (US) - General Purpose CE</td>
</tr>
</tbody>
</table>
DESCRIPTION The display/programmer allows a user to configure a single sensor or a whole system. An adjustable autotimer allows the user to set automatic measurement cycles ranging from 2 minutes to 1 week. While in operating mode, the display will show the sensor address, sensor name, measurement in the specified units, percentage, display mode and the status of the current device.

FEATURES AND BENEFITS

Remote Sensor Set-up and Configuration
• Allows end user to set-up system from any location

Remote Measurement Request and Display
• Monitors up to 99 sensors from up to 4000 feet

4-line x 20 Character Backlit LCD Display
• Easy to read level, sensor name and status

RS-485 Communication
• MODBUS protocol

Optional Heater
• Keeps system running smoothly in temperatures below -4° F (-20° C)

SYSTEM CONFIGURATION

HOW TO ORDER

LBY-4  M  0-10 -
HEATER (See Note 1)
A = Without Heater
B = 115 VAC Heater
C = 230 VAC Heater
COMMUNICATIONS
M = MODBUS
DISPLAY / PROGRAMMER

Note 1: For operation below -4° F (-20° C)

* See ORB Technical Sheet for Specifications.
## SPECIFICATIONS

**FUNCTIONAL**

- **Display / Programmer**

**Operating Power**

- Powered from Yo-Yo sensor (9-24 VDC);
- With optional heater, 120/240 VAC required

**Operating Temperature**

- -4°F to 158°F (-20°C to 70°C);
- with optional heater:
  - -40°F to 158°F (-40°C to 70°C)

**PHYSICAL**

- **Communication**: RS-485 MODBUS
- Optional integral modem

- **Sensors**: Up to 99

- **Display**: 4 lines by 20 characters
- Backlit LCD display

- **Keypad**: NEMA 4X soft-touch

- **Enclosure**: NEMA 4X molded fiberglass polyester

**PERFORMANCE**

- **Wiring Requirements**: Belden® 9842, 4 wire shielded cable

- **Wiring Distance**: 4000’ max

- **Speed**: 115 Kbps

- **Protocol**: MODBUS

- **Interface**: RS-485

- **Internal Modem**: Optional 56K Modem

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**DIMENSIONS**

[Diagram of the device with dimensions marked.]

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