The MicroDisplay makes it easy to create screens with custom graphics, text and even gauges that automatically adjust based on J1939 values.

Due to its innovative design, native coding is not required for custom user interfaces. Screens and graphic objects are created with the included PC software tool and stored in the on-board flash memory.

When in use the MicroDisplay can be controlled two different ways. First, a vehicle’s ECU (Electrical Control Unit) can send and receive commands to control the display. Second, with the new Menu Object and Screen List Object the display can be programmed to provide stand-alone functionality. The menu object allows users to enter and navigate a menu using the menu key. The Screen List Object allows users to quickly navigate through favorite screens (objects) by pressing one of the right and left arrow buttons.

### ENVIRONMENTAL SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>Level 2: -50°C to +85°C with optional heater</td>
<td>Level 2: -50°C to +85°C</td>
<td>Level 2: -25°C to +85°C without heater</td>
<td>Level 2: -50°C to +85°C</td>
<td>Level 2: -40°C to 70°C at a rate of 4°C/min (1 hour at extremes)</td>
<td>Level 2</td>
<td>96% humidity at 35°C for 240 hours</td>
<td>5% aqueous solution of NaCl @ 35°C and a pH between 6.5 and 7.2 for 48 hours</td>
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<td>5% aqueous solution of NaCl @ 35°C and a pH between 6.5 and 7.2 for 48 hours</td>
</tr>
</tbody>
</table>

### Your Experts in Cab Controls

Grayhill specializes in the design, development and production of human interface controls, including:
- Cab user interface design
- Customized control panels
- CAN-bus interface devices

www.grayhill.com
DIMENSIONS

ELECTRICAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Standard</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum load</td>
<td>ANSI/ASAE EP455 5.1.1</td>
<td>Level 2</td>
</tr>
<tr>
<td>Jump start voltage</td>
<td>EP455 5.10.2</td>
<td>36V</td>
</tr>
<tr>
<td>Short circuit protection</td>
<td>EP455 5.10.4</td>
<td>36V</td>
</tr>
<tr>
<td>Reverse polarity protection</td>
<td>EP455 5.10.3</td>
<td>-36V</td>
</tr>
<tr>
<td>Starting profile</td>
<td>ISO 16750-2</td>
<td>Level II code C, Level IV code A</td>
</tr>
<tr>
<td>Battery-less operation</td>
<td>ANSI/ASAE EP455 5.11.3</td>
<td>Level 2</td>
</tr>
<tr>
<td>Load dump</td>
<td>ISO 7637-2 Test Pulse 5b</td>
<td>Up to 60V</td>
</tr>
<tr>
<td>Switching spikes</td>
<td>ISO 7637-2 Test Pulse 3a and 3b</td>
<td></td>
</tr>
<tr>
<td>Wire harness inductance</td>
<td>ISO 7637-2 Test Pulse 2a and 2b</td>
<td></td>
</tr>
<tr>
<td>Wire harness inductance-switching</td>
<td>ISO 7637-3 Test Pulse a and b</td>
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<tr>
<td>Inductive load pulse</td>
<td>ANSI/ASAE EP455 5.11.4</td>
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<tr>
<td>Mutual coupling</td>
<td>ANSI/ASAE EP455 5.11.6</td>
<td>Level 2</td>
</tr>
<tr>
<td>Alternator field decay</td>
<td>ANSI/ASAE EP455 5.11.2</td>
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PART NUMBER DESCRIPTION

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>3D32XK-200</td>
<td>MicroDisplay with CAN, I/O</td>
</tr>
<tr>
<td>3D32HK-200</td>
<td>MicroDisplay with CAN, I/O and heater</td>
</tr>
<tr>
<td>3D32XKR-200</td>
<td>MicroDisplay with CAN</td>
</tr>
<tr>
<td>3D32HKR-200</td>
<td>MicroDisplay with CAN and heater</td>
</tr>
<tr>
<td>3D32CABLE-1</td>
<td>MicroDisplay Programming Cable with Power Supply</td>
</tr>
</tbody>
</table>

CONTACT GRAYHILL FOR CUSTOM OPTIONS

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Standard</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESD</td>
<td>ANSI/ASAE EP455 5.12</td>
<td>Level 1 +/- 25KV</td>
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<tr>
<td>Radiated Immunity</td>
<td>EP455 5.16</td>
<td>Level 1</td>
</tr>
<tr>
<td>Conducted emissions</td>
<td>SAE J1113-41</td>
<td>Level 4</td>
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<tr>
<td>Radiated emissions</td>
<td>ISO 14982</td>
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CE COMPLIANCE

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<tr>
<th>Specification</th>
<th>Standard</th>
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<tbody>
<tr>
<td>EMC</td>
<td>EN 13309:2010</td>
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<tr>
<td>ESD</td>
<td>SAE J1113-41</td>
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<tr>
<td>Radiated Immunity</td>
<td>ISO 14982</td>
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</table>

MECHANICAL PERFORMANCE

<table>
<thead>
<tr>
<th>Specification</th>
<th>Standard</th>
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</thead>
<tbody>
<tr>
<td>Vibration, Random</td>
<td>ANSI/ASAE EP455 5.15.1</td>
</tr>
<tr>
<td>Vibration, Sinusoidal</td>
<td>ANSI/ASAE EP455 5.15.2</td>
</tr>
<tr>
<td>Shock / Crash Safety</td>
<td>ANSI/ASAE EP455 5.14</td>
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</tbody>
</table>

specifications subject to change

MOUNTING INFO

Use M6 Nut (1mm pitch)
Max Torque 25 in-lbs

REAR CONNECTOR

Mating Connector: DEUTSCH DT06-12SA

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LaGrange, Illinois 60525
phone: (708) 354-1040
fax: (708) 354-2820

www.grayhill.com

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