Combining innovative design with carefully selected materials, the PGFM8000 series fader provides the features and reliability that you expect from a Penny+Giles product. Conductive plastic tracks, precious metal contacts and twin guide rods ensure smooth operation whilst maintaining excellent long term electrical and mechanical performance.

- 100mm stroke
- motorised operation
- internal track switch options
- single channel
- linear, audio log or VCA output

www.pennyandgiles.com

PG FM 8000 SERIES
LINEAR MOTORISED FADERS

Innovation In Motion
**PGFM 8000**
standard motorised fader

---

**SELECT THE FADER OPTIONS YOU REQUIRE**

<table>
<thead>
<tr>
<th>Stroke length</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output law</td>
<td>Servo</td>
</tr>
<tr>
<td></td>
<td>Log audio taper</td>
</tr>
<tr>
<td>Output channels</td>
<td>One</td>
</tr>
<tr>
<td>Fader type</td>
<td>series</td>
</tr>
<tr>
<td></td>
<td>PGFM8</td>
</tr>
</tbody>
</table>

Please enter the code for your output law option. This will indentify the fader data shown opposite.

**Resistances ±20%**
- 5kΩ
- 10kΩ
- VCA 2kΩ

**Mounting threads**
- M3

**Motor type**
- coreless
- iron cored

**Motor position**
- 100%V/0dB end
- 0%V/∞ dB end

**Safety warning**
50Vdc maximum voltage
The PGFM8000 is designed for operation at voltages not exceeding 50Vdc

---

**SWITCH OPTIONS**

- **Pre-fade listen (PFL)**
  The switch operates before the active track is reached. This is at the infinity end of the fader and is always under spring load.

- **Internal pre-fade listen track switch *(2mA max)***

- **Internal track* (2mA max)**

- **External microswitch (100mA max)**

- **Overpress mechanism (no internal switch)**

**Fader start/auxiliary**
An internal track switch or external microswitch which operates when the slider is within 4mm from the infinity mechanical stop.

**Microswitch**
- COM N.O. N.C.

**Mounting screw M3 x 3.0mm + panel thickness**
- Recommended tightening torque 0.45Nm

**DIMENSIONS, KNOB BRACKET AND DRIVE MOTOR DATA**

All dimensions shown in mm

| Bracket height | 4.1 |

**DRIVE MOTOR DATA**

<table>
<thead>
<tr>
<th>Motor supply</th>
<th>Vdc</th>
<th>12 nominal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>iron cored</td>
</tr>
<tr>
<td>Motor supply</td>
<td>Vdc</td>
<td>5-11.5 (8 nominal)</td>
</tr>
</tbody>
</table>

It is important that the fader slider is NOT driven against the end stops.

Some track options may not be available with the iron cored motor. Contact your nearest Penny+Giles sales office to discuss requirements.

---

**Safety warning**
50Vdc maximum voltage
The PGFM8000 is designed for operation at voltages not exceeding 50Vdc
OUTPUT LAW CHARACTERISTICS

Log audio taper

Maximum insertion loss 0.5dB. Typical input related crosstalk 85dB

<table>
<thead>
<tr>
<th>Type</th>
<th>Accuracy</th>
<th>Cut off</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8120</td>
<td>±1.0dB (0-20)</td>
<td>100dB</td>
</tr>
<tr>
<td></td>
<td>±2.0dB (21-40)</td>
<td></td>
</tr>
</tbody>
</table>

Note: The ratio of fader resistance to wiper load should be 100:1 or higher

Servo track

The servo track is nominally 2mm longer than the mechanical stroke. The nominal end voltages are 990mV and 10mV (1V reference) and only in extremes of tolerance are the end voltages achieved, thus allowing servo control over the full mechanical stroke.

Standard resistance for faders having no additional tracks (servo & touch sense only) ±20%

<table>
<thead>
<tr>
<th>Track</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servo</td>
<td>10kΩ</td>
</tr>
<tr>
<td>5k audio</td>
<td>16.5kΩ</td>
</tr>
<tr>
<td>10k audio</td>
<td>33kΩ</td>
</tr>
<tr>
<td>2k7 VCA</td>
<td>25kΩ</td>
</tr>
</tbody>
</table>

Linearity ±0.75%

Servo track with overpress

<table>
<thead>
<tr>
<th>Tracker</th>
<th>Overpress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log audio taper</td>
<td>2 overpress</td>
</tr>
</tbody>
</table>

Test conditions: • wiper load 100kΩ log only • element resistance 10kΩ • frequency for crosstalk and cut-off 15kHz • frequency for law accuracy 1kHz • complies with test specification D460351

FADER KNOB OPTIONS

An 11mm satin finish chrome P+G knob is available separately.

CIRCUIT DIAGRAMS/TERMINATIONS

Log audio taper

Mounting hole position-see drawing

Slot length 110 x 3

Log audio taper with overpress

Mounting hole position-see drawing

Slot length 110 x 3

CIRCUIT DIAGRAMS/TERMINATIONS

Fader type

<table>
<thead>
<tr>
<th>Fader type</th>
<th>PGFM8100</th>
<th>PGFM8110</th>
<th>PGFM8120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 5</td>
<td>Red</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>Pin 6</td>
<td>Blue</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>Pin 7</td>
<td>Yellow</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>Pin 8</td>
<td>Black</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Pin 9</td>
<td>Grey</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Faders are fitted with either a 4 or 9 way connector.

Mating connector

Contacts JST type SEH-001T-P0.6
Housing JST type EHR-4 or EHR-9

TO ORDER OR OBTAIN A QUOTATION PLEASE CONTACT YOUR NEAREST SALES OFFICE AND ADVISE:

The series number and description, the output law, resistance, fixing threads, switches, bracket height, motor type, motor position, motor drive

For example: • PGFM8000 motorised fader • log law • one channel • 10kΩ resistance • M3 mounting inserts • 4.1mm knob bracket height
• 12V coreless motor • 100%V/0dB

Penny+Giles would code this fader as:

Fader type

<table>
<thead>
<tr>
<th>Fader type</th>
<th>PGFM8</th>
<th>stroke</th>
<th>law</th>
<th>channels resistance</th>
<th>inserts</th>
<th>switches</th>
<th>bracket</th>
<th>motor</th>
<th>position</th>
</tr>
</thead>
</table>

Note: Faders are fitted with either a 4 or 9 way connector.
Innovation In Motion

Penny & Giles
Faders and controllers, position sensors, joysticks and solenoids for commercial and industrial applications.

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Penny+Giles are accredited to BS EN ISO 9001:2008
Quality is at the heart of all our systems ensuring the reliability of our products from initial design to final despatch.

The products detailed in this document are supplied as components for installation into an electrical apparatus or system. They are outside the scope of the EEC directive and will not be CE marked.

The information contained in this brochure on product applications should be used by customers for guidance only.
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