

Penny+Giles

A Curtiss-Wright Company

Penny+Giles analogue and digital T-Bar controllers provide excellent performance and reliability for video switchers, mixers and effects generators.

Analogue T-Bars incorporate a conductive plastic track with an analogue output which offers excellent performance.

Digital T-Bar controllers incorporate a high quality optical incremental encoder, generating two channels of quadrature output at 256 cycles per channel.

This data can then be decoded to provide directional indication and incremental position.



- analogue or digital output
- smooth precise control
- infinite resolution
- noise-free operation
- compact and rugged
- proven durability

www.pennyandgiles.com

PGF5000 SERIES T-BAR VIDEO CONTROLLERS

PGF5000

analogue T-Bar video controller



SELECT THE FADER OPTIONS YOU REQUIRE

Resistance $\pm 20\%$	5k Ω C	2.5k Ω G
Linearity	1% 1	3% 3
End volts maximum	0.1% X	
Output law	Linear	

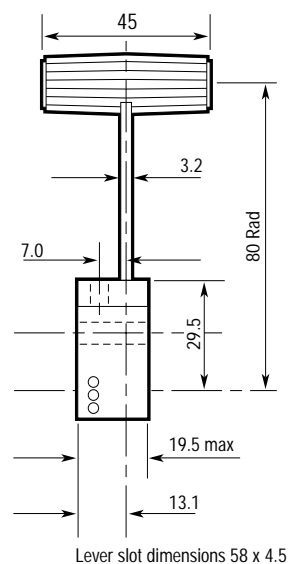
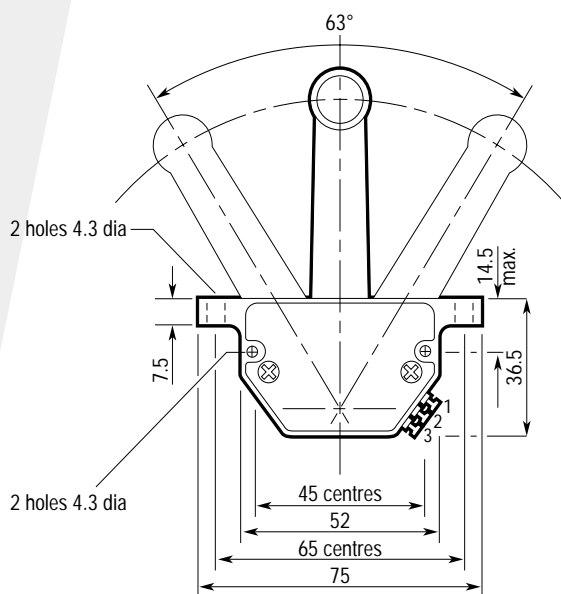
DIMENSIONS

All dimensions shown in mm

Minimum overtravel each end 1°

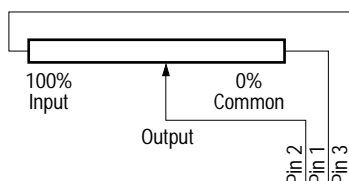
Insulation resistance 20M Ω at 50Vdc

Maximum wiper current 10mA



CIRCUIT DIAGRAMS/TERMINATIONS

Track switch (2mA max) available to special order



SAFETY WARNING

50Vdc maximum voltage

The PG5000 is designed for operation at low voltages not exceeding 50Vdc

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

The series number and description, resistance, linearity and end volts.

For example: • PGF5000 • 2.5k Ω • linearity 3% • end volts 0.1% Penny+Giles would code this fader as:

series resistance linearity end volts
Controller type PGF5000 / **G** / **3** / **X**

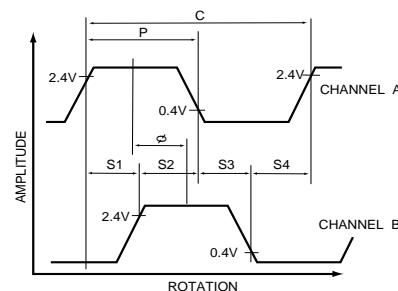
PGF5000

digital T-Bar video controller



QUADRATURE WAVEFORM

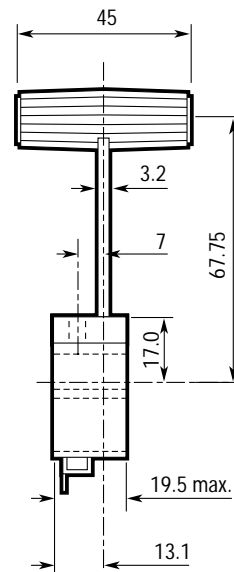
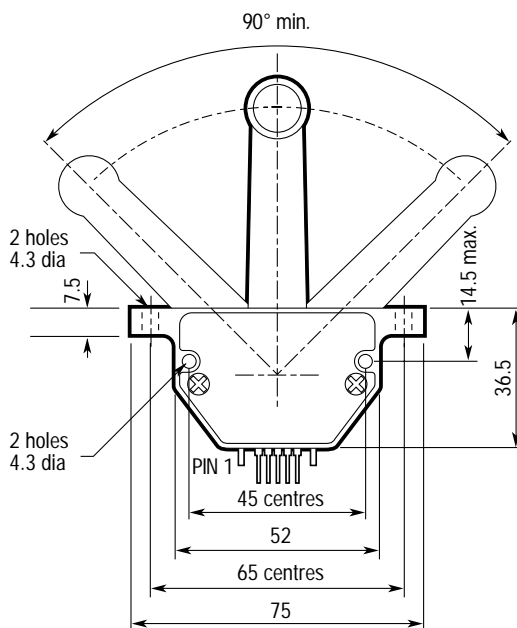
Cycles	1024 per revolution
Transitional edges	4096 per revolution
<i>Over 90° angular travel</i>	
Available cycles	256 per channel
Transitional edges	1024
Rise time	180nS typical (CL = 25pF RL=3.3kohms)
Fall time	40nS typical (CL = 25pF RL=3.3kohms)
Phase error	15° maximum



C = 1 cycle length P = pulse width
S = state width (4 per cycle) θ = phase difference

DIMENSIONS

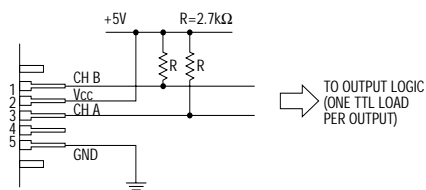
All dimensions shown in mm



CIRCUIT DIAGRAMS/TERMINATIONS

Pin output

- Pin 1 Channel B output
- Pin 2 Vcc
- Pin 3 Channel A output
- Pin 4 Not connected
- Pin 5 Ground



Connector details

A Molex connector type 7720S is supplied but the following are also recommended

AMP	103686-4 or 640445-5
DuPont	HEDS-8902 with 4-wire leads
HP	65039-032 with 4825X-000
Molex	2695 series with 2759 series

ELECTRICAL SPECIFICATION

Supply voltage (pin 2)	4.5 to 5.5Vdc (Ripple < 100mV p-p)
Supply current (pin 2)	30mA minimum 85mA maximum
High level output voltage (pins 1 and 3)	2.4V minimum (IOH = -200µA maximum)
Low level output voltage (pins 1 and 3)	0.4V maximum (IOL = 3.86mA)

To ensure reliable encoding performance, the encoder module requires 2.7kΩ (±10%) pull up resistors on output pins 1 and 3 as shown. These resistors should be located as close to the encoder as possible (within 1200mm). Each of the encoder outputs can drive a single TTL load in this configuration

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

The series number and description. Penny+Giles would code this fader as: **Controller type: D460332**

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Penny & Giles

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

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Quality Approvals



Certificate No. LRO 0924881

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.



EMC Directive 2004/108/EEC

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.

Penny+Giles Controls Ltd makes no warranty or representation in respect of product fitness or suitability for any particular design application, environment, or otherwise, except as may subsequently be agreed in a contract for the sale and purchase of products. Customer's should therefore satisfy themselves of the actual performance requirements and subsequently the products suitability for any particular design application and the environment in which the product is to be used.

Continual research and development may require change to products and specification without prior notification.

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Innovation In Motion

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Integrated Sensing