

Fluidea

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Electric proportional foot pedals PEP 2.01.11

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Description:

The Hall effect proportional foot pedal series PEP are suitable to operate in the heaviest environmental conditions.

The sensors and the electronic components are IP68S protected and are positioned in the lower part of the body which is separated from the upper part by a waterproof plastic diaphragm.

The foot pedal is made of a robust steel plate with a special anti-corrosion treatment and the pivot pin has an anti-seizure protection to prevent the inlet of solid particles from the external environment.



The fully tested Hall effect technology, combined with the modular electronic system, allows the configuration of the output metering curves in the analogue, PWM, CAN, USB standard options or customized on request.

This technical catalogue refers only to the analogue output signal configuration. For other configuration, please contact our sales office.

Hall effect sensors are protected against electromagnetic interferences and radiofrequencies (EMI and RFI) up to 100 V/M.

The pre-stroke and extra-stroke blind angles can be programmed with very tight tolerances to allow the hysteresis reduction and ensure the perfect repeatability in any operating condition.

The foot pedal series PEP for their design and build specifications and for the operating performances, represent a one of a kind product in the market

Peculiarities:

- Robust steel plate foot pedal with anti-corrosion treatment
- Sealed pivot pin
- Contactless tested Hall effect technology sensors
- Electrical and mechanical life up to 9 millions cycles
- Hall effect sensors and electronic board sealed and with a separation diaphragm from the upper part.
- IP68S protection
- Adjustable pre-stroke, extra-stroke blind angle, start and end regulation
- Automated programming of the sensors to ensure minimum tolerance of output metering curves.
- Output analogue, PWM, CANbus and USB signals
- Electromagnetic withstand EMI/RFI up to 100V/M
- Reverse polarity protection
- RoHS & WEEE compliance

The data and the technical features in this catalogue are not binding. The manufacturer reserves the right to carry out modifications, by its unquestionable judgement and without prior notice, in order to improve its products. The manufacturer is not responsible for damage to people or properties caused by an improper use of the product.

Technical features:

ELECTRICAL:

Electrical life
 Supply current for each sensor (mA)
 Output resistance (@ $I_o \leq -2$ mA) (Ω)
 Analogue supply voltage (option 1) (VDC)
 Analogue supply voltage (option 2) (VDC)
 Out of centre output analogue signal tolerance (VDC)
 End stroke output analogue signal tolerance (VDC)
 Out of centre output analogue signal voltage(VDC)
 Out of centre operation angle ($^\circ$)

MIN	TYPICAL	MAX
9.000.000 cycles		
N/A	N/A	10,00
N/A	100,0	N/A
4,50	5,00	5,50
8,00	12,00	18,00
-0,15	N/A	+0,15
-0,15	N/A	+0,15
5,00	N/A	30,00
1	2	3

MECHANICAL:

Mechanical life
 Nominal deflection angle (bidirectional mode) ($^\circ$)
 Nominal deflection angle (unidirectional mode) ($^\circ$)
 Pre-stroke angle ($^\circ$)
 Extra-stroke angle ($^\circ$)
 Operating force (N) @ $-40 \div 85^\circ\text{C}$ on I/A @ $\alpha 6,5^\circ$

MIN	TYPICAL	MAX
9.000.000 cycles		
13 backward	26	13 forward
13	15	16
0,5	1,0	1,5
0,5	1,0	1,5
15,6	20,0	24,4

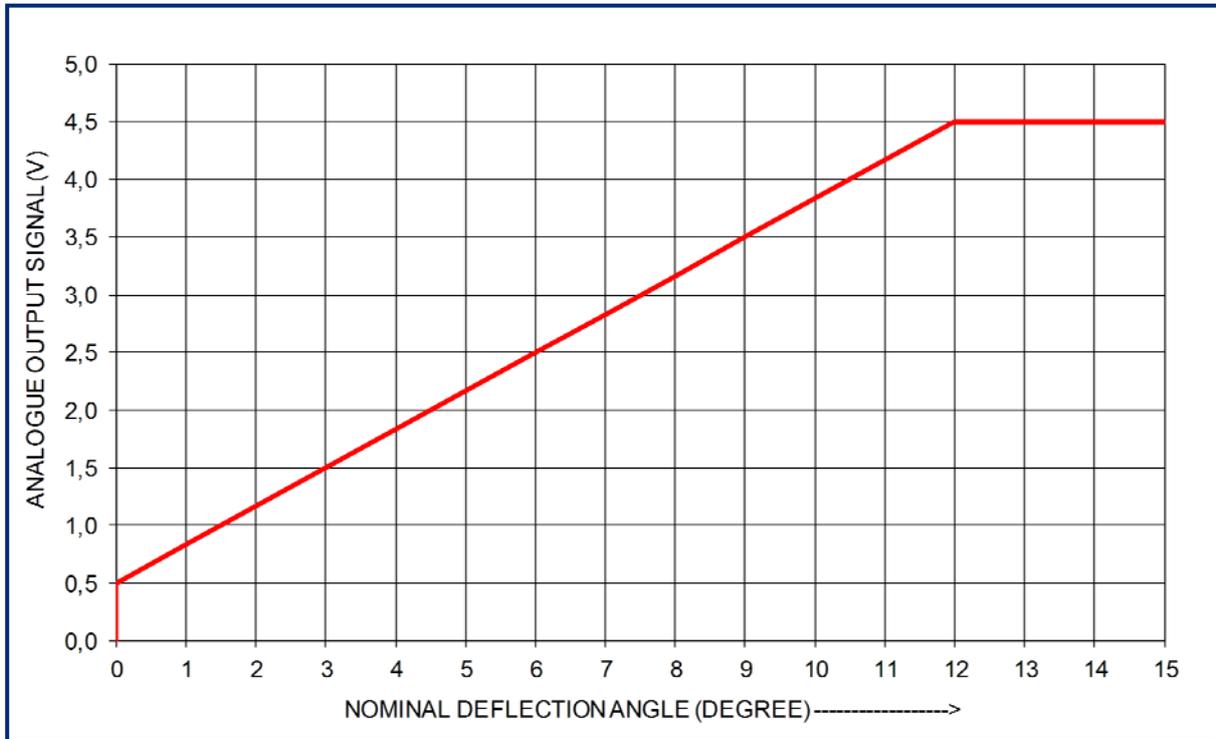
ENVIRONMENTAL:

Ambient temperature ($^\circ\text{C}$)
 Storage temperature ($^\circ\text{C}$)
 Humidity resistance test
 Vibration resistance test
 Protection class
 RFI withstand (options 3 and 5 excluded)
 EMI withstand in compliance with

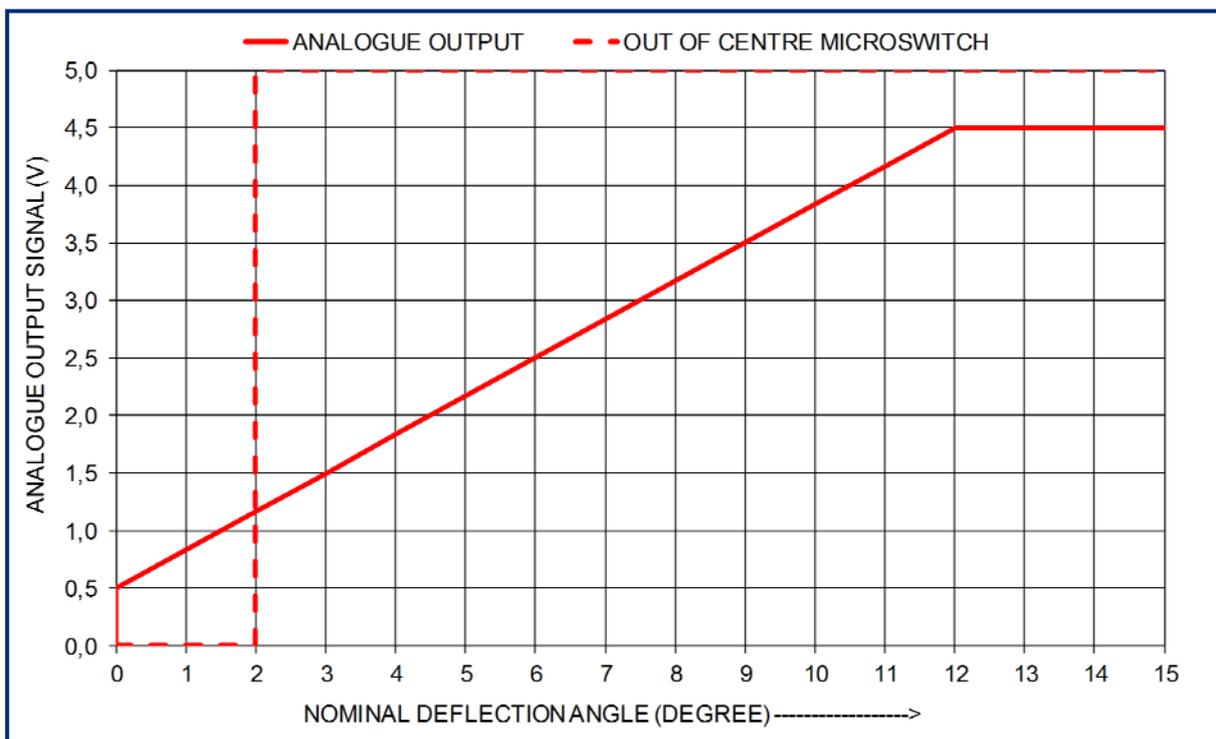
MIN	TYPICAL	MAX
-40	20	85
-65	20	105
96% RH @ 70°C for 96 hours		
10g, 10 Hz - 2kHz sinusoidal		
IP68		
100V/M, from 14 kHz to 1 GHz		
MIL-STD-461D/SAE J1113-22		

Output metering curves:

Metering curve A - For unidirectional single pedal (0- max.)

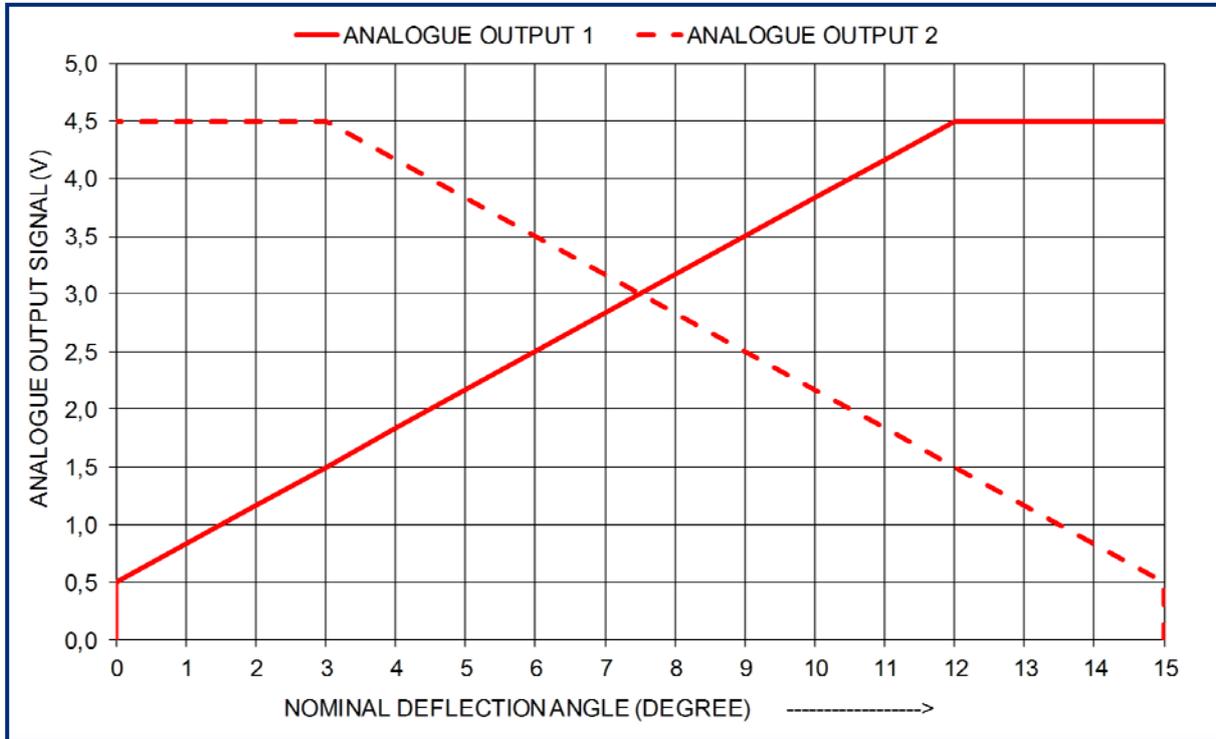


Metering curve B - For unidirectional single pedal (0- max.) and out of centre micro-switch

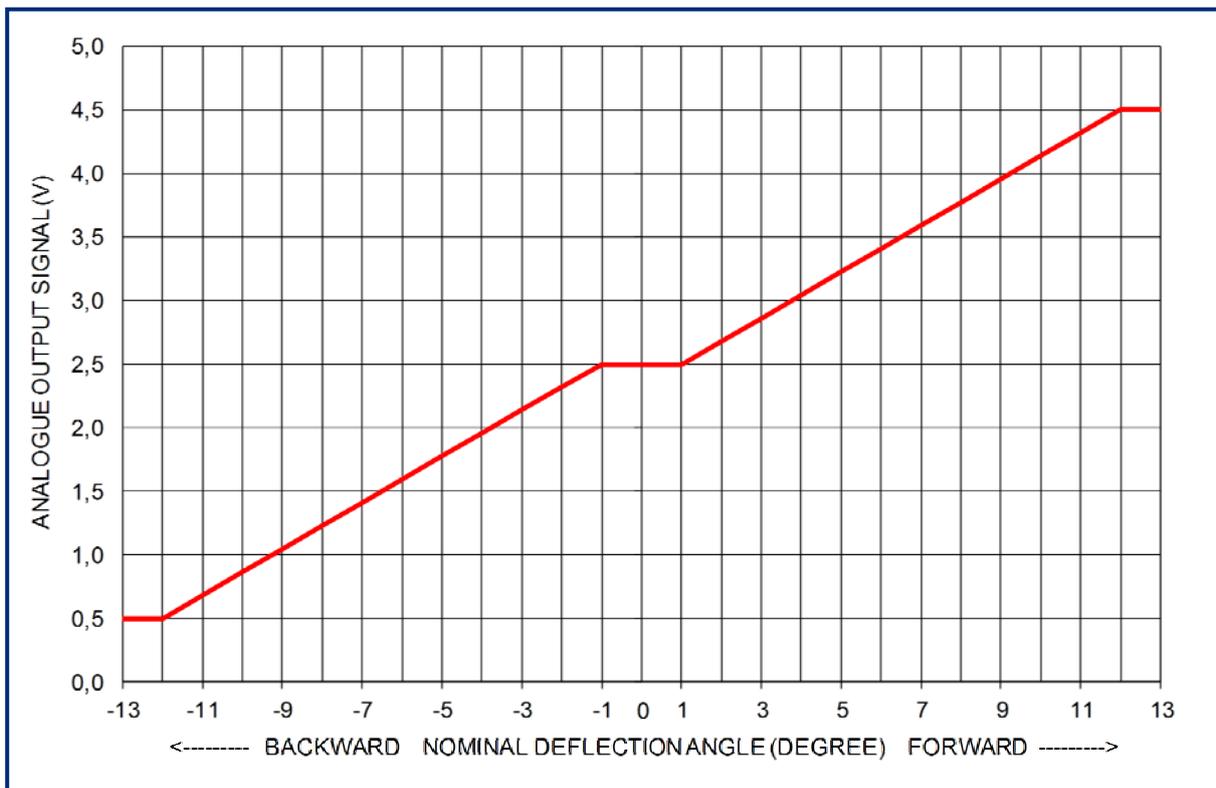


Output metering curves:

Metering curve C - For unidirectional single pedal and 2 output signals (zero-max.)

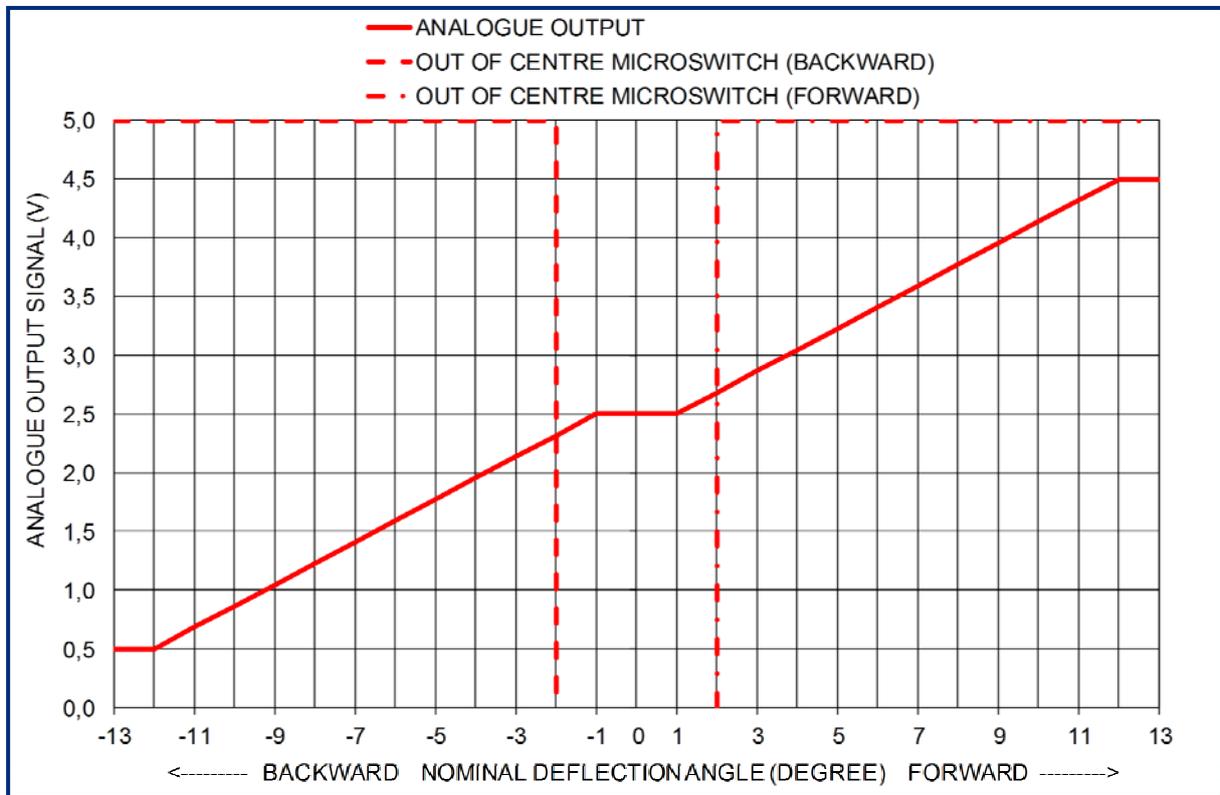


Metering curve D - For rocker pedal (I-0-A)

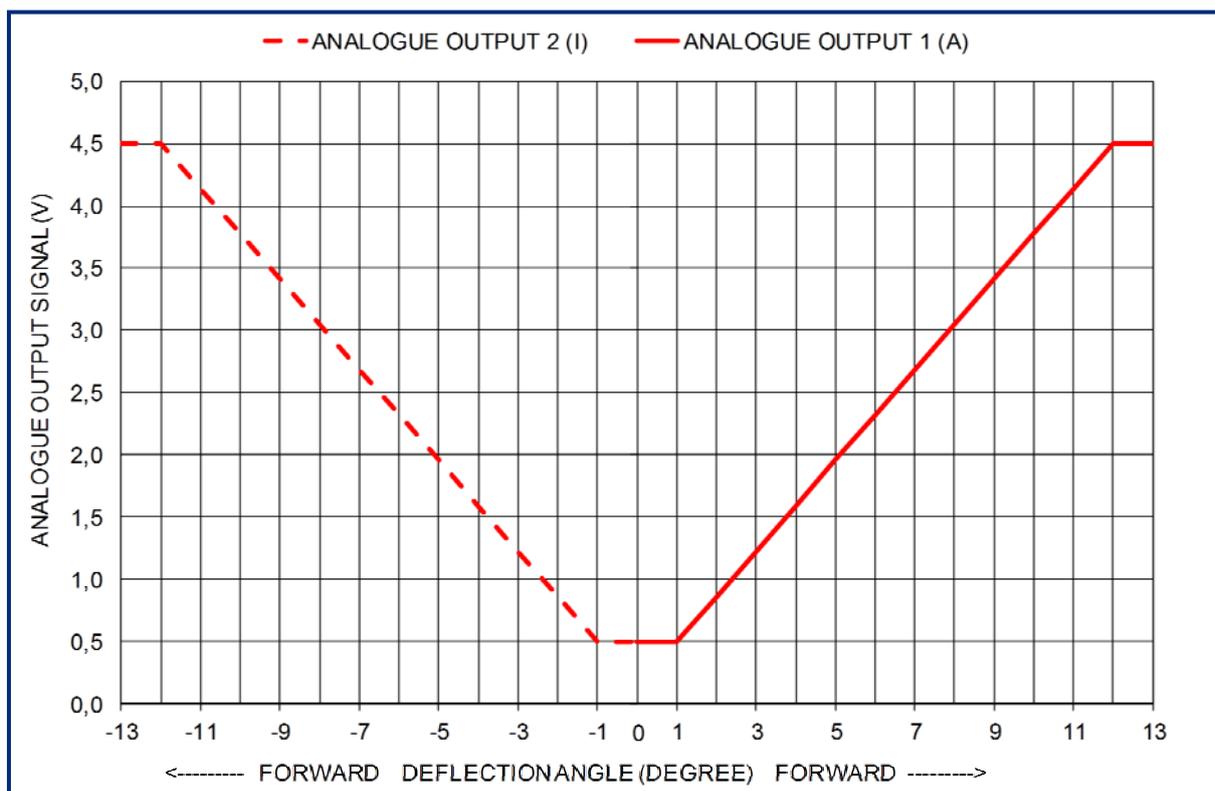


Output metering curve:

Metering curve E - For rocker pedal (I-0-A) and 2 out of centre micros-witches

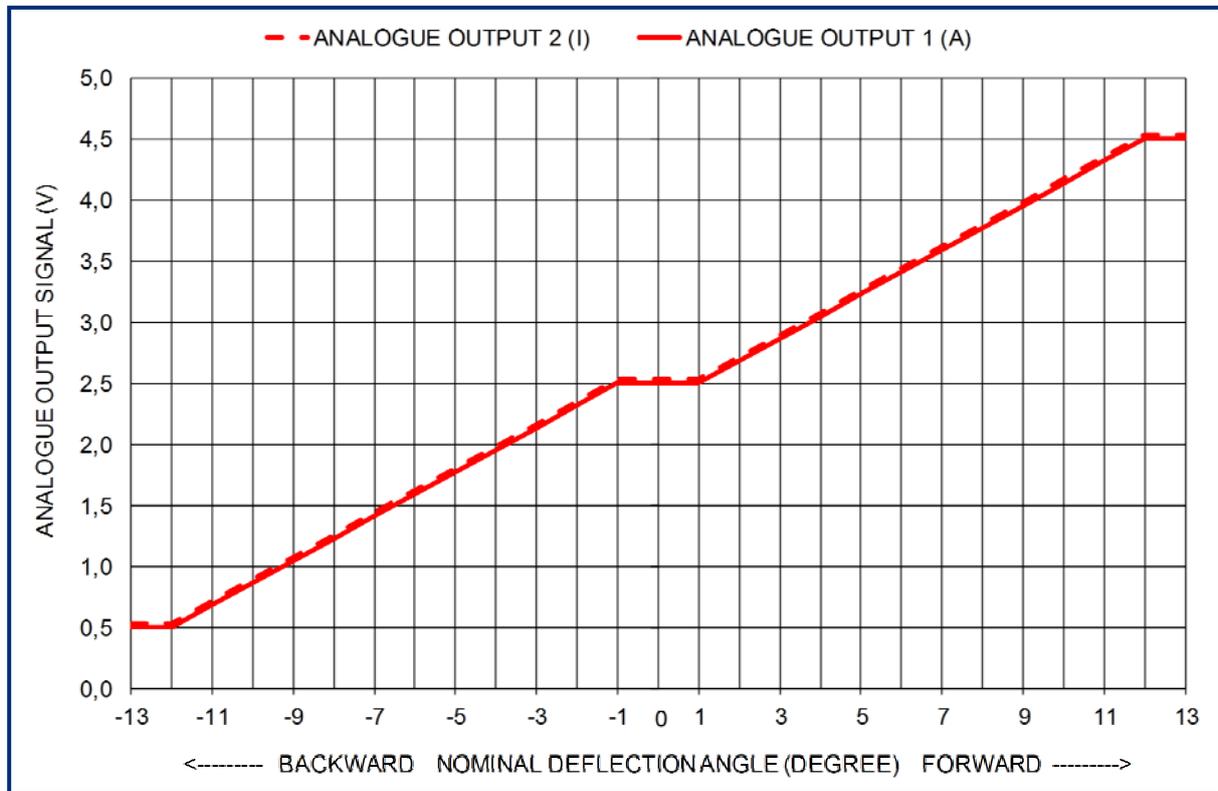


Metering curve F - For rocker pedal (I-0-A) with zero in neutral position



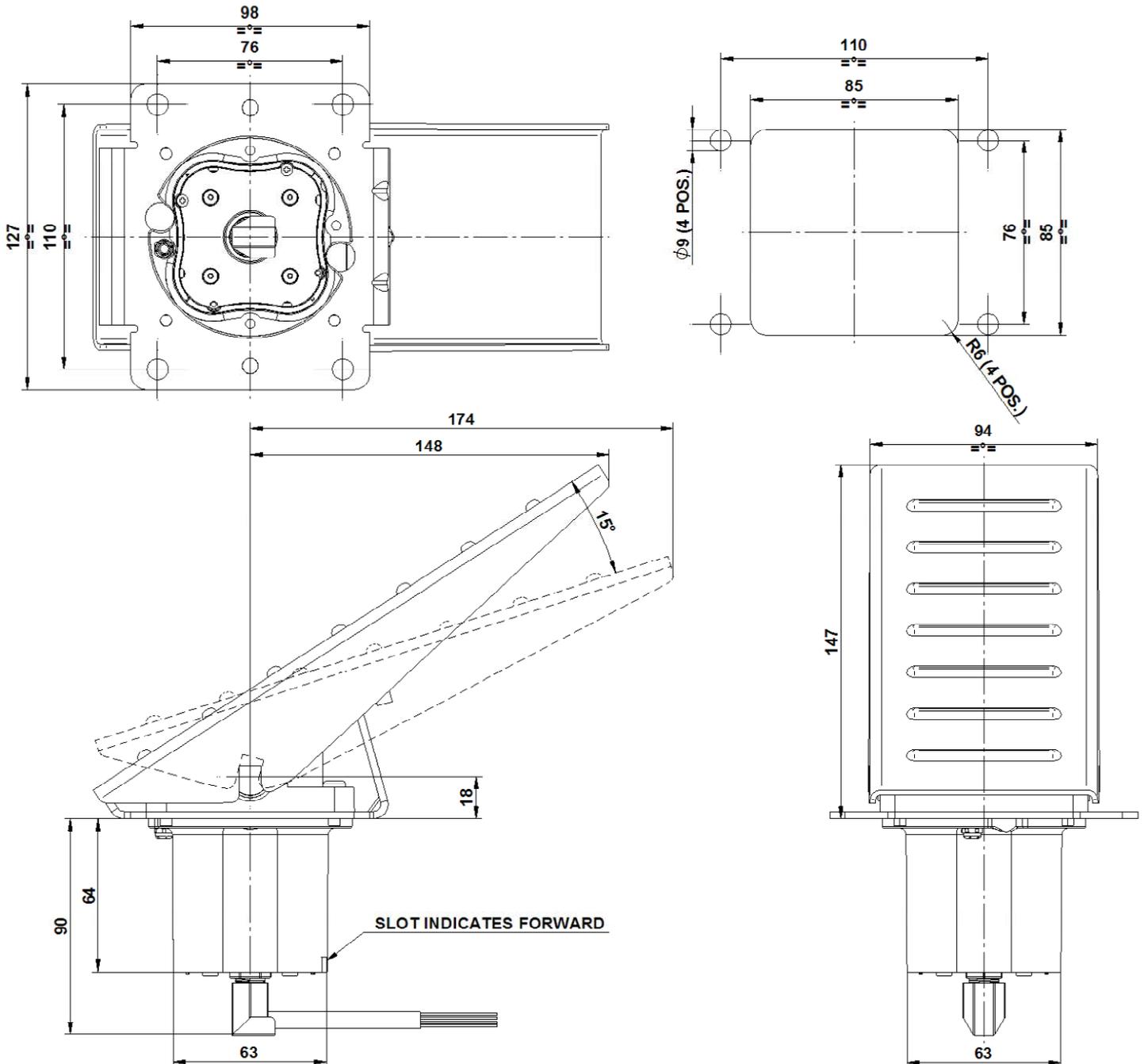
Output metering curve:

Metering curve G - For rocker pedal (I-0-A) and 2 output signals



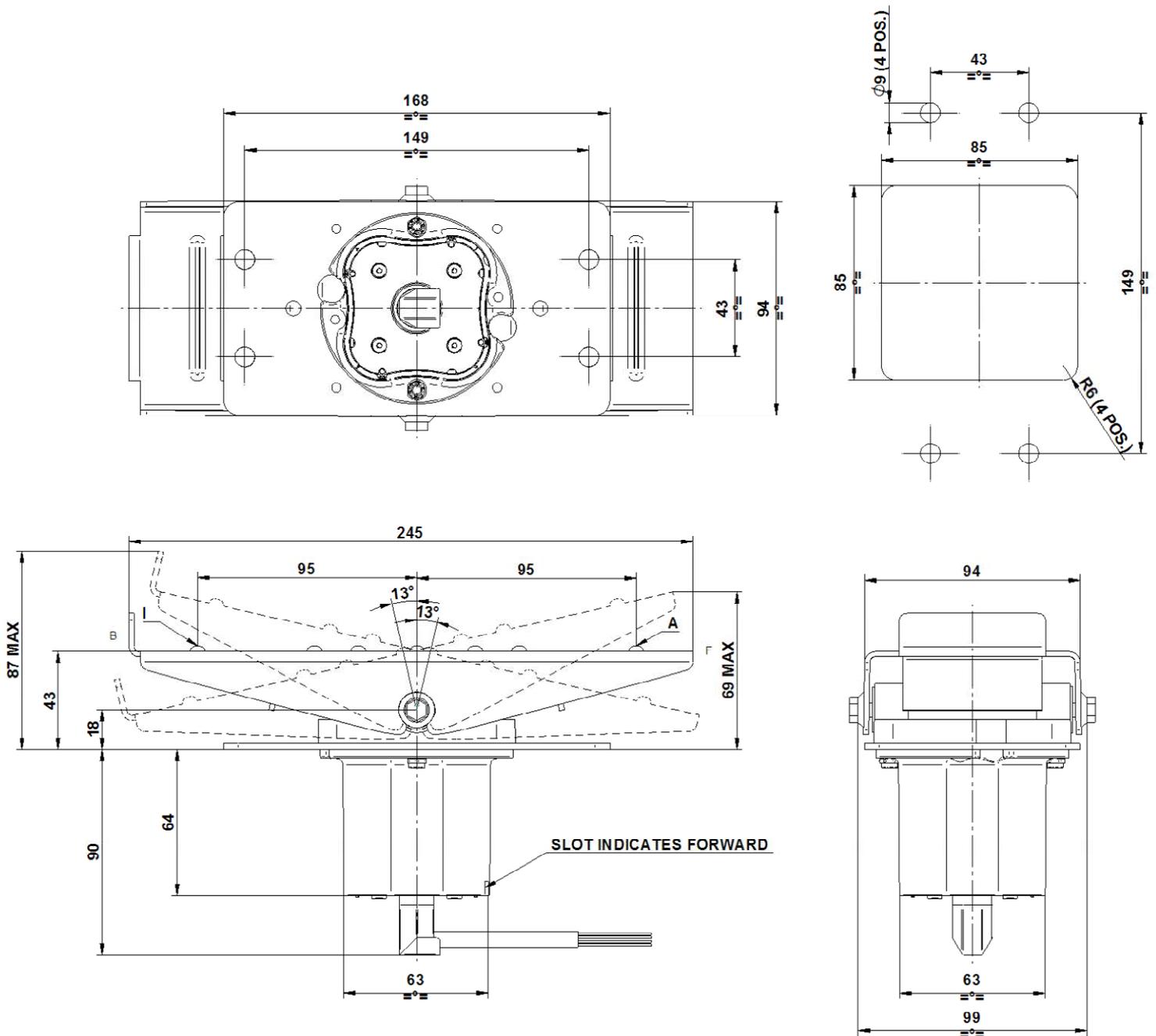
Overall dimensions:

Single pedal



Overall dimensions:

Rocker pedal



Ordering key:

PEP	A	2	A	05
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Power supply:

- 05 = 5 Volt DC stabilized
without reverse polarity protection
- 12 = 12 Volt DC
with reverse polarity protection
- 24 = 24 Volt DC
with reverse polarity protection

Output metering curve (pages 5-6-7-8):

- A = For single pedal (zero-max) 0,5-4,5 VDC
- B = For single pedal (zero-max) 0,5-4,5 VDC
and out of centre micro-switch
- C = For single pedal and 2 parallel output signal
(zero/max) 0,5-4,5 and 4,5-0,5 VDC
- D = For rocker pedal (I-0-A) 0,5-2,5-4,5 VDC
- E = For rocker pedal (I-0-A) 0,5-2,5-4,5 VDC
and two out of centre micro-switches
- F = For rocker pedal (I-0-A) with zero in neutral position
0,5-4,5 VDC
- G = For rocker pedal (I-0-A) with two parallel output
signals 0,5-2,5-4,5 VDC

Foot peda configuration:

- 1 = Single pedal with deflection angle of 15°
- 2 = Rocker pedal with deflection angle of 26°
(13° forward – 13° backward)

Output signal format:

- A = Analogue

Design serie:

- PEP = Electrical proportional pedal

Design and production of remote control components & systems

The comprehensive range includes the following manufactured and marketed equipment:

- Hydraulic pumps and motors
- Directional control valves
- Proportional pressure reducing valves
- Hydraulic, pneumatic and electric joysticks
- Radio controls and electronic controllers
- Control pads, dashboards and armrests
- Ergonomic, cylindrical and palm grips
- Electro-hydraulics pilot blocks
- Hydraulic filters
- heat exchangers and cooling systems
- Fluid monitoring and diagnostic equipment
- Bell housings, driving flanges & elastic couplings



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