

FP - Foot Pedal

DTCs FP - foot pedals have been developed to provide the reliability required in demanding environmental conditions such as heavy duty industrial applications.

The high mechanical strength of the shaft and the unique sensing design make the pedals ideal for rigorous use in rugged, harsh environments.

The FPs have been designed to accommodate standard and custom designed pedal levers.

The FP family of products consist of a voltage version (VO) and a CAN J1939 (CA).



Main Features

- Contactless sensing – Hall effect
- Life greater than 5 million cycles
- 2 sensors for redundancy
- Optional rubber lever cover
- Optional interfaces (Voltage, CAN)
- Integrated temperature compensation
- Protection Class IP 67

Custom modifications

- Output characteristics
- Operating force
- Lever deflection angle
- Optional rubber lever cover
- Logo on lever cover

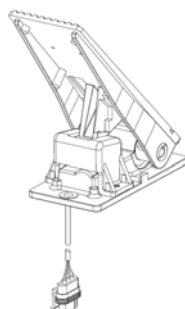
Mechanical Data

Life	> 5 million cycles
Operating temperature	- 30°C to 70°C
Storage temperature	- 40°C to 85°C
Operating force	see table overleaf
Load maximum	2000 N
Protection Level	IP67
Lever deflection (Deflection angle)	15°, 18° or 25°
Lever Zero Position (Neutral position)	38° or 45°
Housing	Aluminium

FP - Foot Pedal



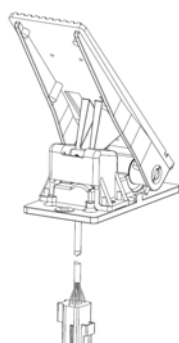
FP CA (CAN)



Electrical Data		
Supply Ratings	Voltage range DC current	9V ... 36V* 85mA
CAN Bus Output	J19	SAE J1939
Other electrical Characteristics	EMI	≥ 100V/m
Connection (Interfaces)	To vehicle	Harness 600mm, 4 pin connector (Fa. Tyco superseal)

** 36V tested for 5 minutes*

FP VO (voltage out)



Electrical Data - Voltage out (VO8) -		
Supply Ratings	Voltage range DC current	9V ... 36V* 60 mA at 24V
2 Voltage Outputs	Output 1	0.5V ... 4.5 V
	Output 2	4.5V ... 0.5 V
Pull-down resistor Tolerance	Recommodation	10kΩ ± 100mV
Output current		max. 1mA
Other electrical Characteristics	EMI	≥ 100V/m
	Release signals	2, active at zero position**
Connection (Interfaces)	Standard	Harness 600mm, 8 pin connector (Fa. Tyco econoseal J Mark II+)

** 36V tested for 5 minutes*

Electrical Data - Voltage out (VO5) -		
Supply Ratings	Voltage range DC current	5V ± 5% 25 mA
1 Voltage Output	Output 1	0.5V ... 4.5 V **
Pull-down resistor Tolerance	Recommodation	47kΩ ± 100mV
Output current		max. 1mA
Other electrical Characteristics	EMI Signals	≥ 100V/m 2 release signals *
		Release 1 : active in zero position (low) Release 2 : active in zero position (high)
Connection (Interfaces)	Standard	Harness 600mm, 8 pin connector (Fa. Tyco econoseal J Mark II+)

** recommended 20kΩ pullup resistor vs. 5V*

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FP with rubber
lever cover

FP without rubber
lever cover

Operating force

Neutral position		45°			
		Soft Spring		Middle Spring	
Deflection angle		Start	End	Start	End
15°		18 N	24 N	25 N	33 N
18°		18 N	25 N	25 N	35 N
25°		18 N	28 N		

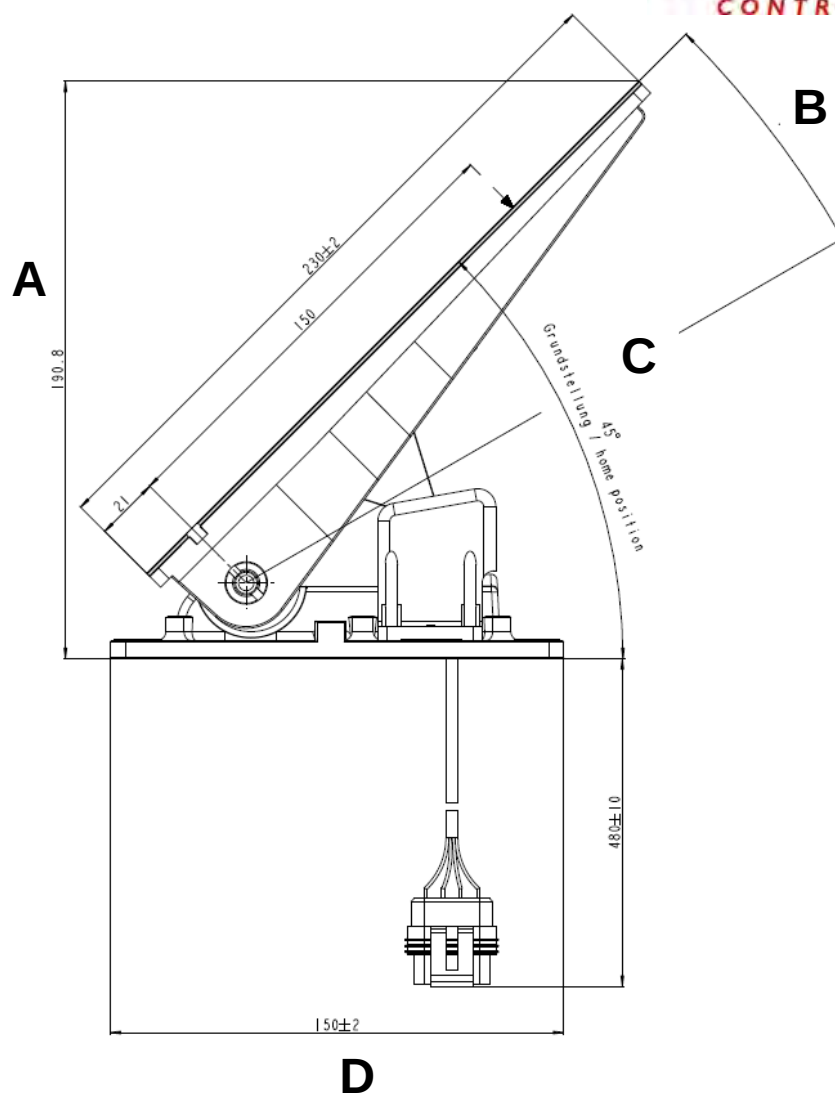
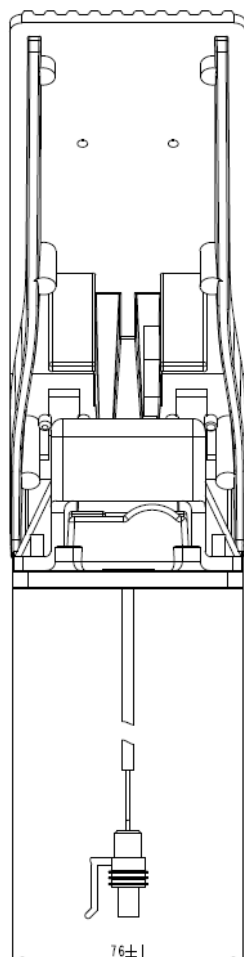
Neutral position		38°	
		Soft Spring	
Deflection angle		Start	End
15°		21 N	27 N
18°		21 N	28 N

Ordering code		1	2	3	4	5	6	7
Example (standard version)		FP	VO	38	18	S	VO8	SN
1 Type	FP							
2 Function	VO = voltage output CA = CAN							
3 Neutral position*	38° or 45°							
4 Deflection angle*	15°, 18° or 25°							
5 Spring	S = soft spring M = middle spring							
6 Output signals	FP VO VO8 = 0.5 ... 4.5V 4,5 ... 0,5V VO5 = 0.5 ... 4.5V FP CA J19 = J1939							
7 Lever Cover	S = standard without cover R = rubber cover N = no logo C = customized logo							

*for 38° neutral position only deflection angle of 15° and 18° available

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FP CA (CAN)

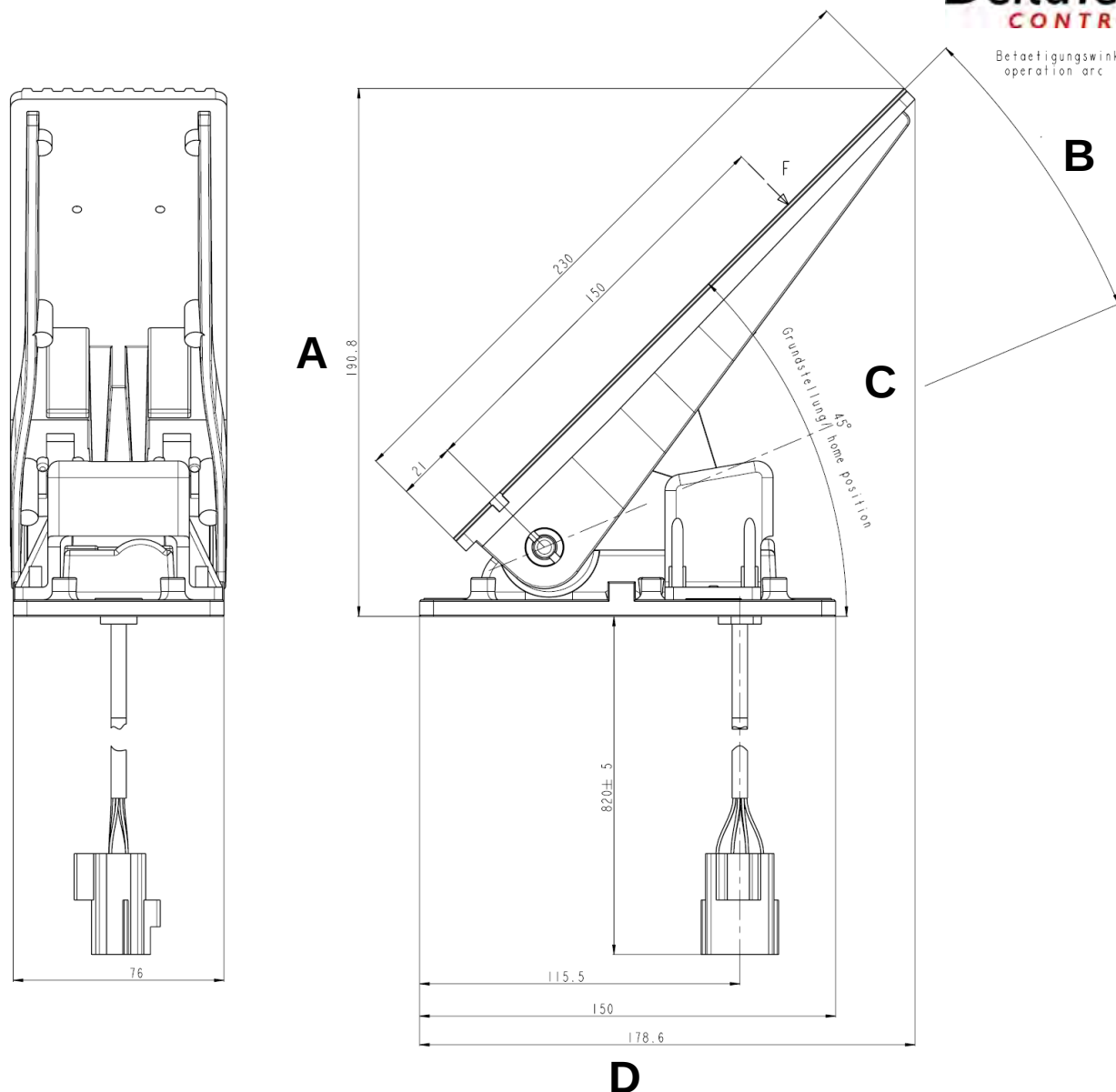


C Neutral position	B Deflection angle	A mm	D mm
38°	15° / 18°	170	201
45°	15° / 18° / 25°	190	179

PIN	Assignment
1	CAN –High
2	CAN – Low
3	+24 V
4	GND

FP - Foot Pedal

FP VO (voltage output)



D

VO5

C	B	A	D
Neutral position	Deflection angle	mm	mm
38°	15° / 18°	170	201
45°	15° / 18° / 25°	190	179

PIN	Color	Allocation
1	BN	GND K2
2	RD	+5V K2
3	WH	release signal 1
4	YE	release signal 2
5	GN	GND K1
6	BU	+5V K1
7	PK	HAL 1A
8	GY	HAL 1A

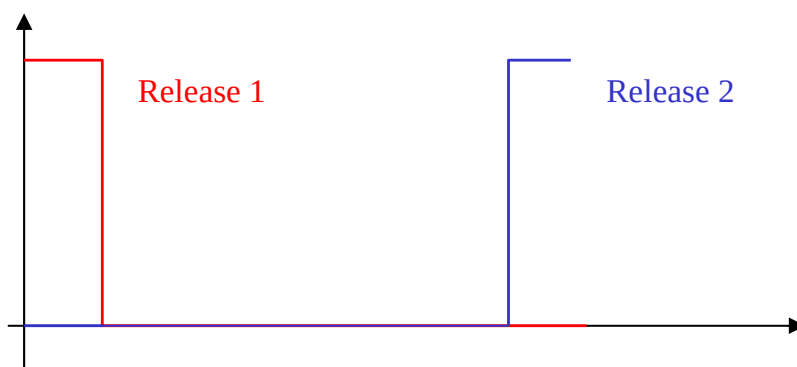
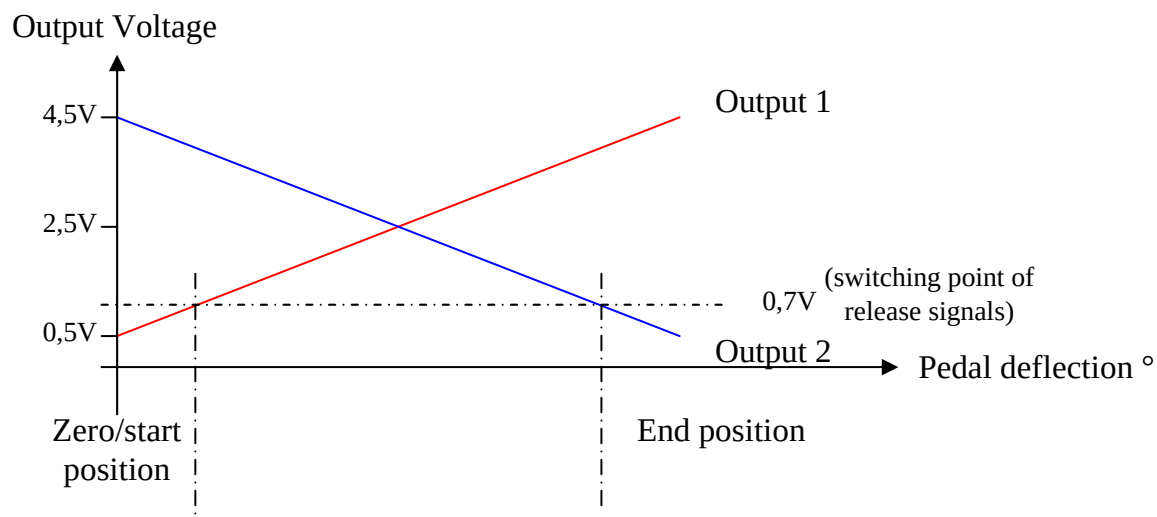
VO8

MOD IV Female Connector PIN	Color	Econoseal Male Connector PIN	Allocation
1	BN	1	OUT 1
2	RD	2	DC
3	WH	3	UBAT
4	YE	4	GND
5	GN	5	OUT 2
6	BU	6	DC
7	PK	7	Frei 2
8	GY	8	Frei 1

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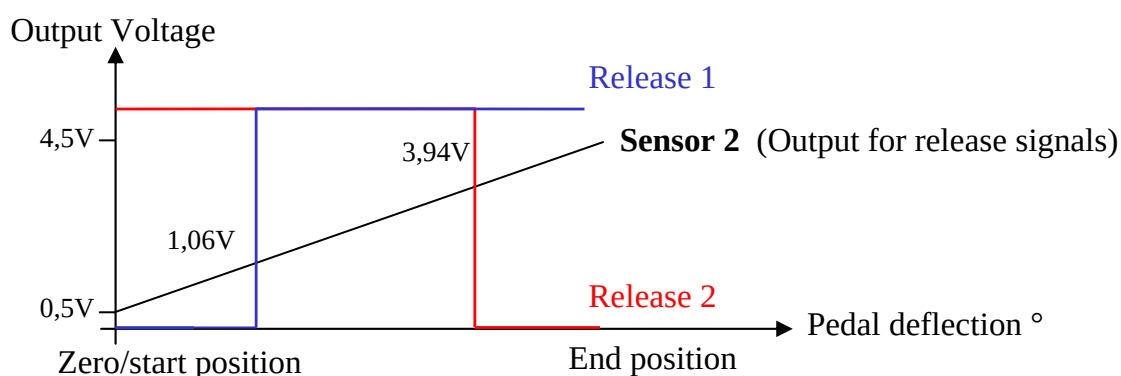
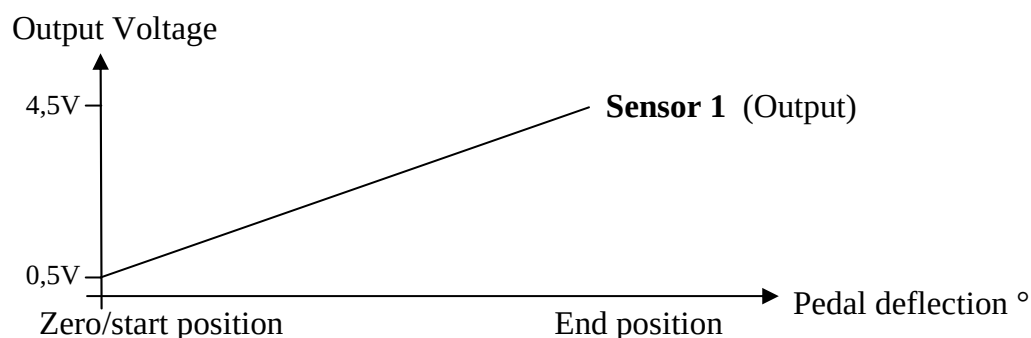
Output switch signal FP VO (VO8)



FP - Foot Pedal



Output switch signal FP VO (VO5)



Servicing DTC pedals

Because of the typically aggressive environment in which DTC footpedals are used, it is recommended that they should be regularly serviced to ensure a continued optimal performance.

In some circumstances it can happen that whilst cleaning (using power sprays for example) that grease within the springs of the footpedal can become dislodged. Whereas this does not affect the operation of the footpedal, to maintain optimal performance for the operator, DTC recommends the following service plan:

After the first year and then every three years thereafter grease should be applied externally at the location of the springs, preferably using a fat spray and then the pedal operated several times to draw the grease into the spring coils.

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