

# **Electronic Suspended Throttle Pedal 963 000 series**



## **1. Mechanical Specifications:**

- Two “built-in” return springs
- Polyamide (injection molded) PA66 + 30% Glass Fiber
- Complies with FMVSS 124

Travel angle	24°
Pedal angle is rest position	15°
Protection classification	IP69K
Storage temperature	-40°C to +95°C
Operating temperature	-40°C to +85°C
Connector	AMP - 6 pins - waterproof (IP69)

- Options:
  - Magnetic kick down virtual feedback with optional kick down signal
  - Twin sensors ( 4 signals )
  - Swivel arm
  - Connector kit or customized wire harness
- Technical specification sheet and part numbers are available upon request

## **2. Electrical Specifications:**

- Complies with 72/245/EEC
- E1 number 03 5754

All Electronic Throttle Controls are fitted with programmable Hall Effect Sensors.

The signals generated by the Electronic Throttle Controls will allow a smooth and precise engine speed control.

The output values are programmable and hence can be adapted to the customer’s specifications. Electronic Throttle Controls can be connected directly to the engine management system, or engine Electronic Control Module

Available programmable sensor models:  
Please, refer to pages 3 and 4

## A/ Programmable single analogue sensor with programmable electronic Idle Validation Switch (IVS)

### Analogue channel :

<b>Current consumption</b>	< 7,5mA
<b>Supply (Vs)</b>	Between 5V and 28 V DC
<b>Output signal value</b>	Between 5% and 95% (+/- 1%) of 5V DC
<b>Output current</b>	Max 1mA

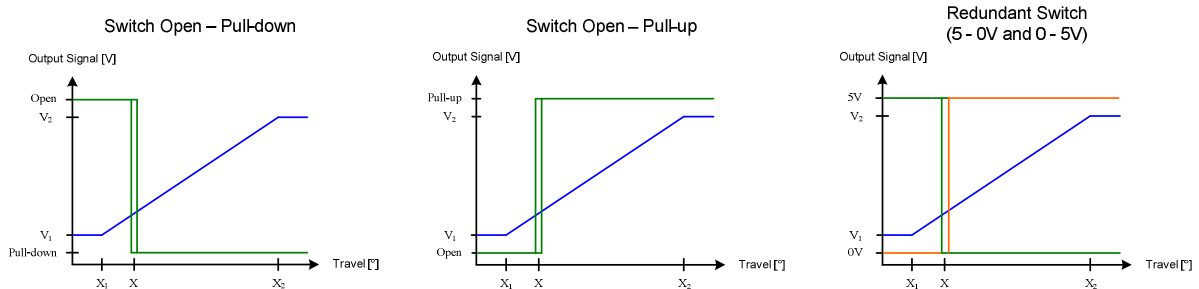
### Switch channel option 1 :

<b>Current consumption</b>	< 10mA
<b>Supply (Vs)</b>	Between 8V and 36V DC
<b>Idle Validation Switch</b>	Configurable (Open collector, Pull-up or Pull-down)
<b>Output current</b>	Max 10mA

### Switch channel option 2 :

<b>Current consumption</b>	< 10mA
<b>Supply (Vs)</b>	Between 8V and 36V DC
<b>Redundant Idle Validation Switch (2 outputs)</b>	Output 1 : High - Low (5 - 0V) Output 2 : Low - High (0 - 5V)
<b>Output current</b>	Max 1mA / output

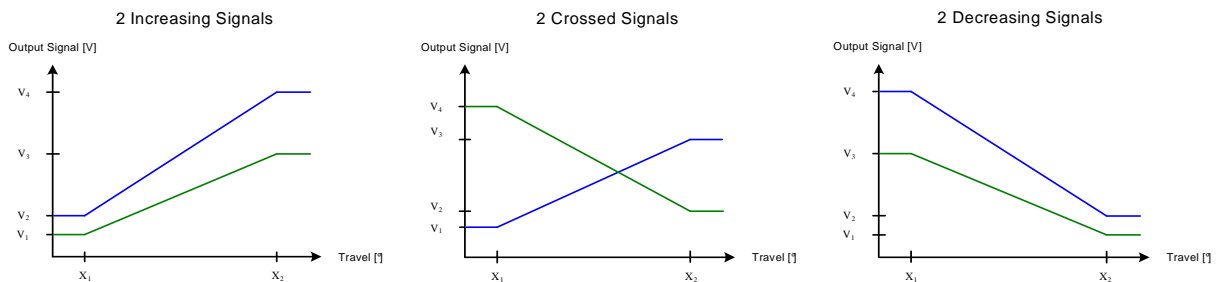
### Examples:



## B/ Programmable single or dual output analogue sensor

<b>Current consumption</b>	< 8mA / channel
<b>Supply (Vs)</b>	5V DC / channel
<b>Output channel #1</b>	Between 5% and 95% (+/- 1%) of Vs
<b>Output channel #2</b>	Between 5% and 95% (+/- 1%) of Vs
<b>Output current</b>	Max 1mA / channel

### Examples:



## C/ Programmable single or dual output digital sensor (PWM)

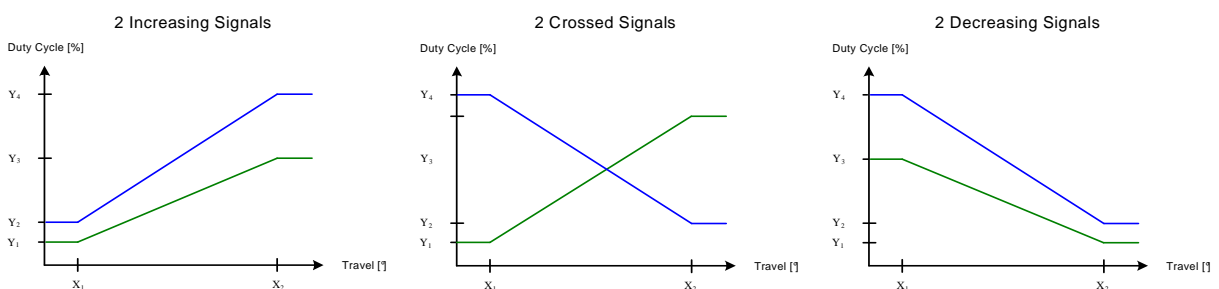
### Digital channel(s) :

<b>Current consumption</b>	< 12mA / channel
<b>Supply (Vs)</b>	Between 8 and 36 V DC
<b>Output channel #1</b>	Duty cycle between 5% and 95% (+/- 1%)
<b>Output channel #2</b>	Duty cycle between 5% and 95% (+/- 1%)
<b>Frequency</b>	200Hz to 500Hz +/-15%
<b>Output current</b>	Max 10mA / channel

### Optional Switch channel for single digital output :

<b>Current consumption</b>	< 12mA
<b>Supply (Vs)</b>	Between 8V and 36V DC
<b>Idle Validation Switch</b>	Configurable (Open collector, Pull-up or Pull-down)
<b>Output current</b>	Max 10mA

### Examples:



### 3. Options:

#### A/ CAN J1939

##### J1939 Parameters:

- J1939 Messages and signals can be activated according to MCS Throttle default values or customer specifications.
- J1939 Parameters like SA (Source Address) or NAME fields can be set according to MCS Throttle default values or customer specifications.
- Optional messages such as DTC (DMx, FMI, MIL, ...) can be activated upon customer request.

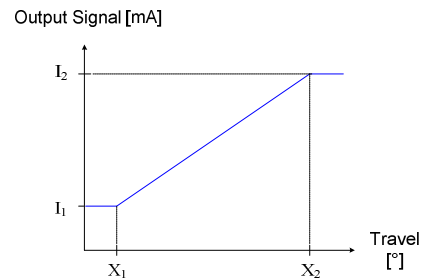
##### Electrical specifications:

Power Supply	+8 .. 32VDC
Current consumption	40mA max.
J1939 Connector	Deutsch #DT06-3S ( J1939/11 )



#### B/ 4-20mA current output signals

Power Supply	+8 .. 32VDC
Current output signal	4 - 20mA



#### C/ Customized parts available

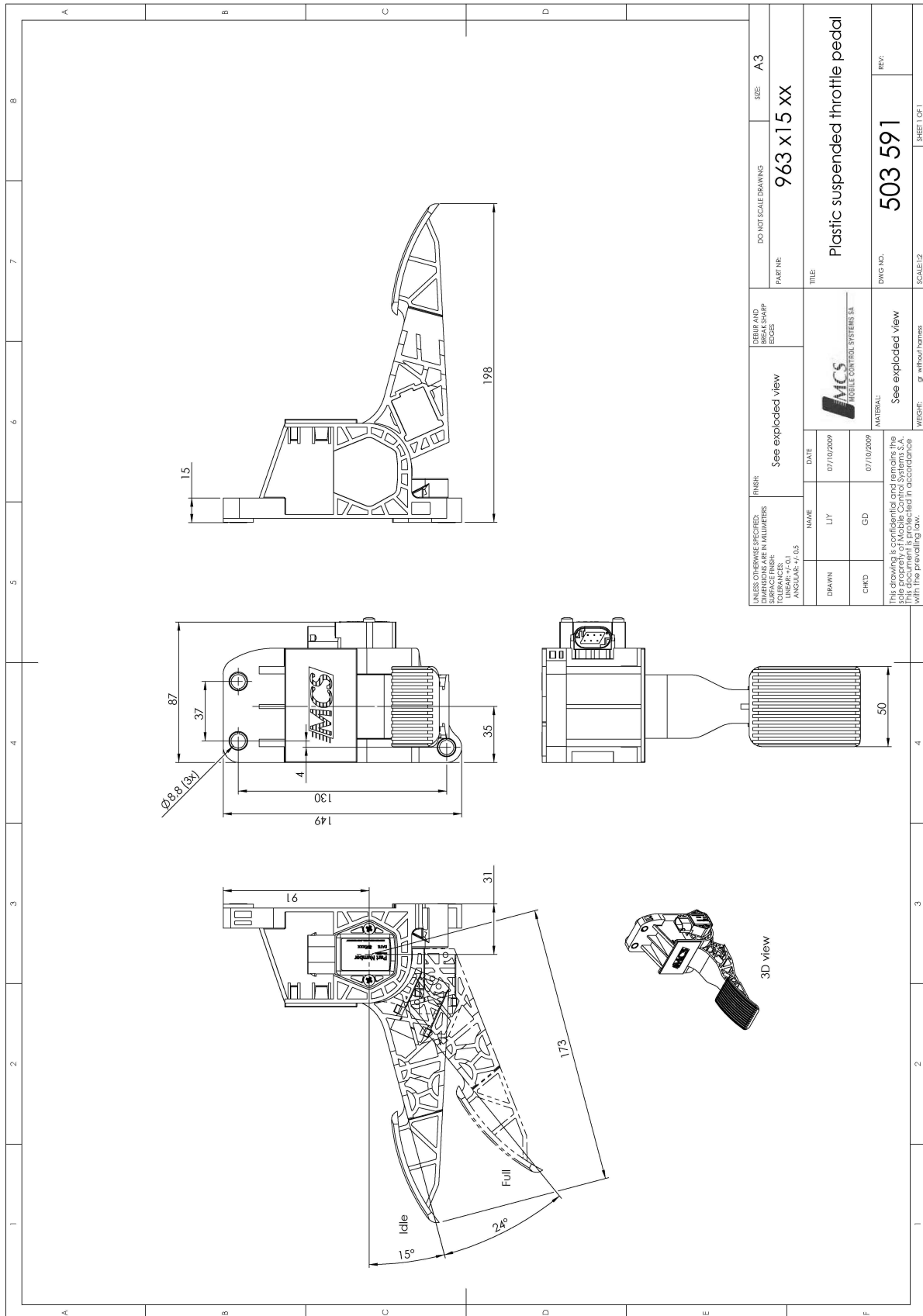


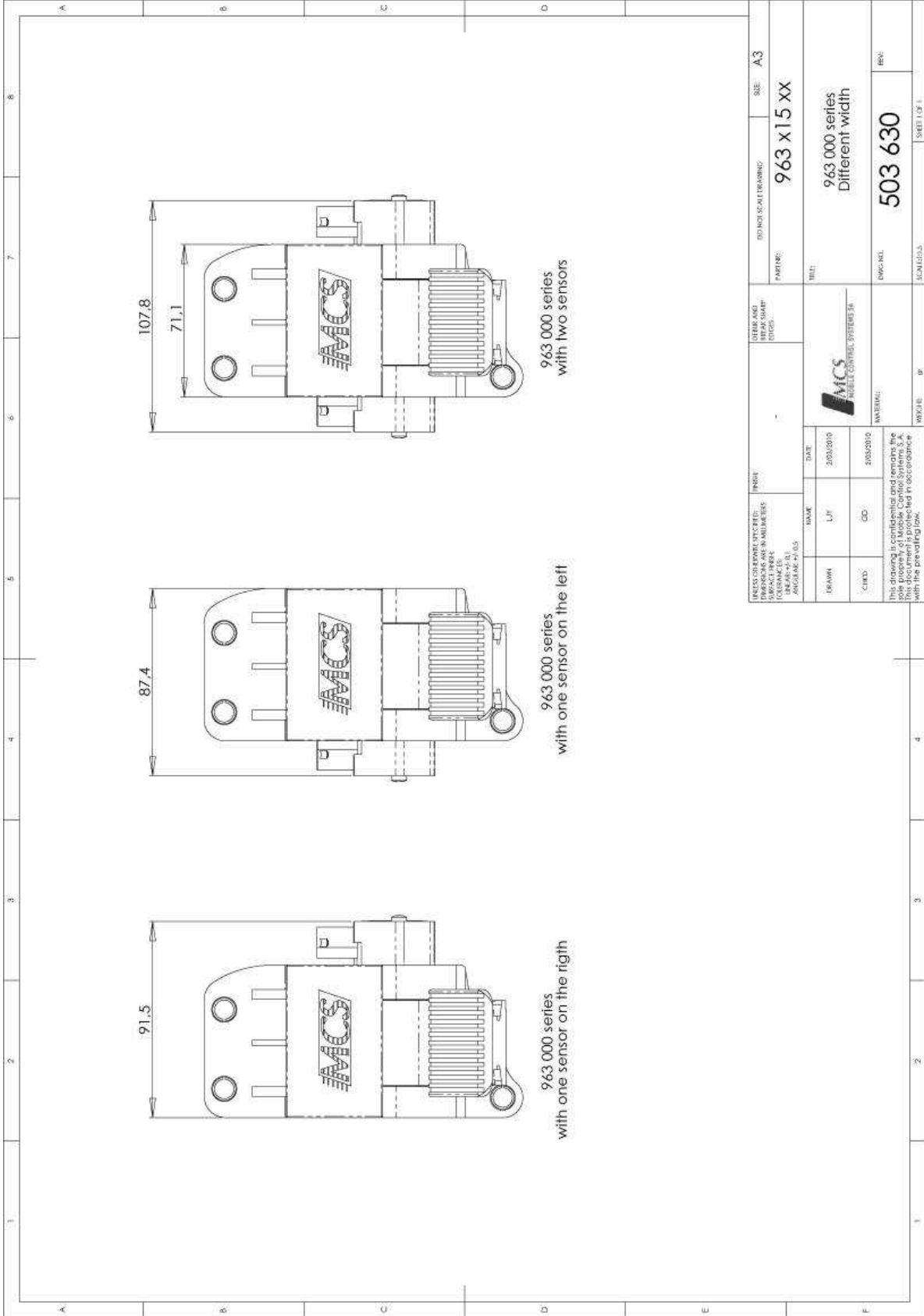
With a swivel arm



With twin sensor  
(up to 4 output signals)

## 4. Generic drawings:





DRESS CODE: PORT SPECIFIED: IN MILLIMETERS SUBJECT: FINISH: COLOURS: MATERIAL: ANGLE: AS: IN: ALL:		ITEM AND QUANTITY: 1 NOTES:		DOWNSCALE DRAWING: SEE: A3	
DRAWN: LJP	DATE: 20/03/2010	PART NO: 963 x15 xx		TITLE: 963 000 series Different width	
CHECKED: CO	DATE: 20/03/2010	DWG NO: 503 630		REV:	
MATERIAL:					
This drawing is confidential and remains the property of MCS. It is not to be reproduced without the written permission of MCS. This document is controlled in accordance with the prevailing law.					
WORKSHEET:		DRAWING:		SHEET 1 OF 1	

## 5 Typical Applications:



## 6. Compatible with the following engines:

- |                  |                 |                   |
|------------------|-----------------|-------------------|
| • CATERPILLAR    | • JCB           | • PERKINS         |
| • CUMMINS        | • JOHN DEERE    | • RENAULT         |
| • DACHAI         | • KUBOTA        | • SCANIA          |
| • DEAWOO         | • LIEBHERR      | • SHANGHAI DIESEL |
| • DAF            | • LOVOL         | • SISU DIESEL     |
| • DETROIT DIESEL | • MAN           | • VOLKSWAGEN      |
| • DEUTZ          | • MERCEDES-BENZ | • VOLVO           |
| • HINO           | • MTU           | • WEICHAI         |
| • ISUZU          | • NAVISTAR      | • YANMAR          |
| • IVECO          | • NISSAN        | • YUCHAI          |