

# **Electronic Rotary Throttle 973 000 series**



## **1. Mechanical Specifications:**

- Adjustable actuating force
- No return spring
- Allows engine constant RPM at selected rate through button position
- Easy to use in combination with Throttle Pedal or Throttle Position Sensor
- Very convenient whenever engine is operated from a/several remote stations
- C € certified

<b>Travel angle</b>	90°
<b>Protection classification</b>	IP66
<b>Storage temperature</b>	-40°C to +95°C
<b>Operating temperature</b>	-40°C to +85°C
<b>Connector</b>	AMP - 6 pins - waterproof (IP69)

- Options: 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

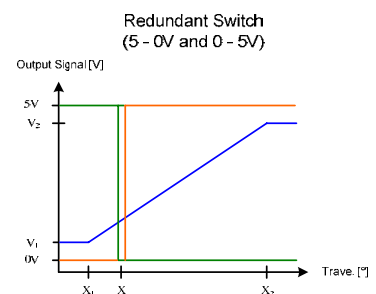
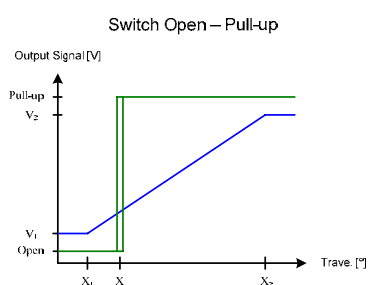
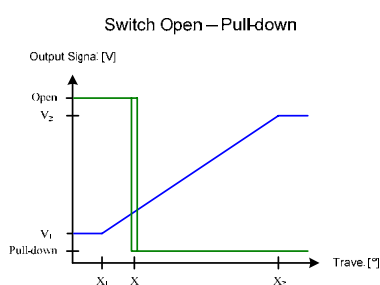
### Switch channel option 1 :

<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

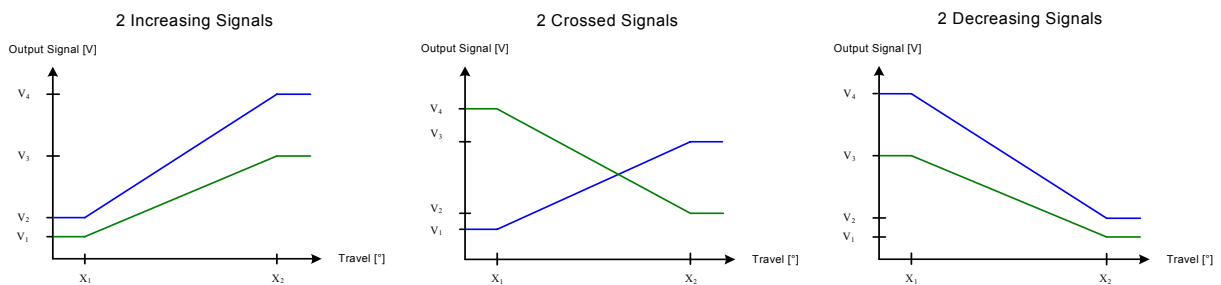
### Examples:



## B/ Programmable 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)

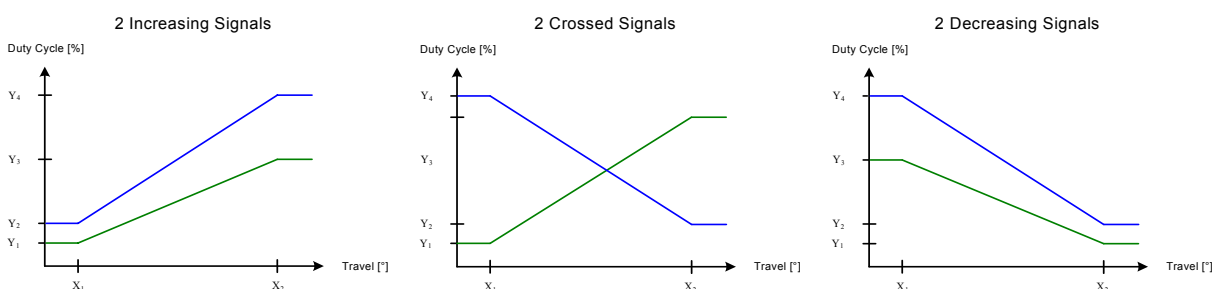
### Digital channel(s) :

<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

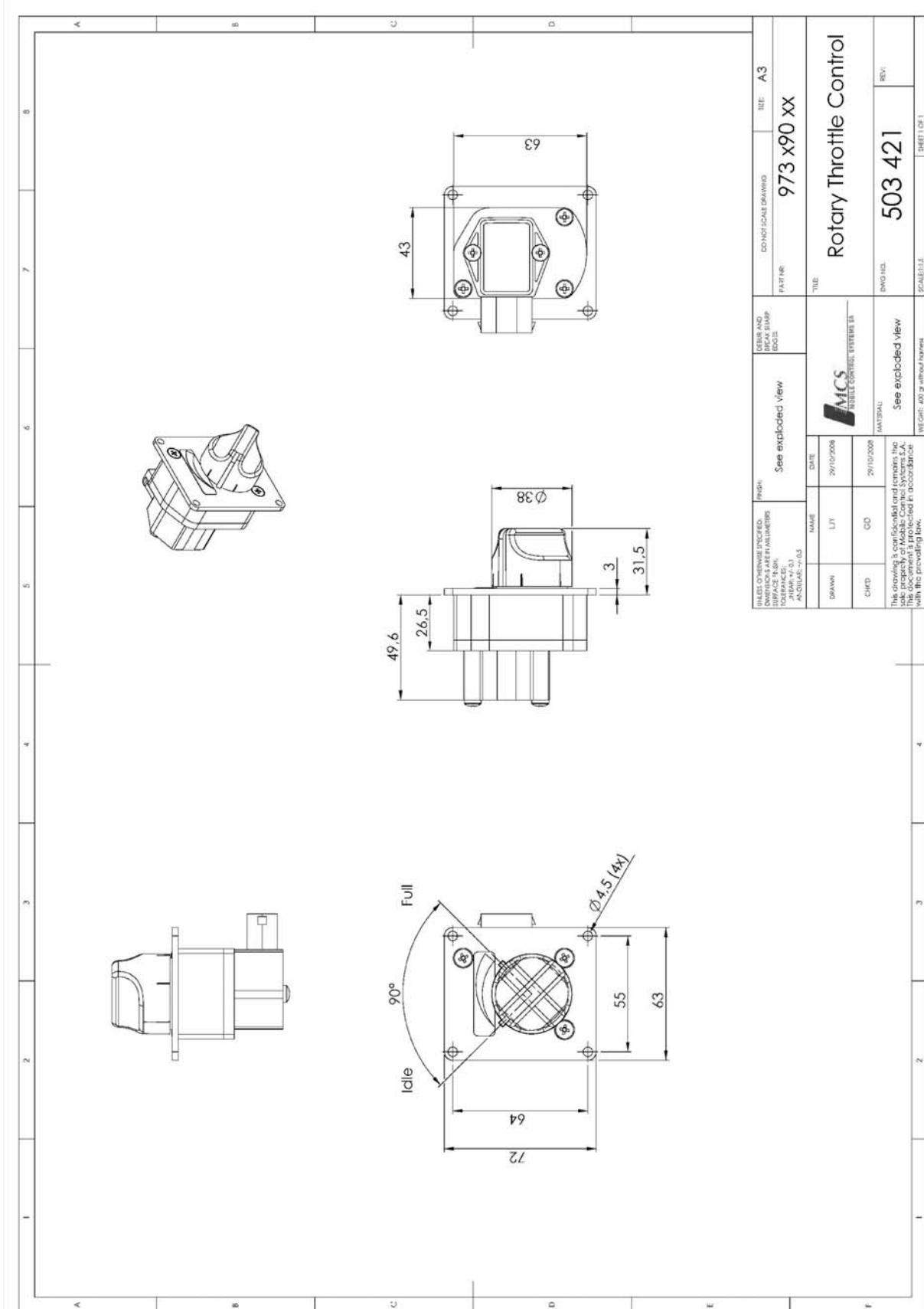
### Optional Switch channel with single digital output :

<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. Drawing:



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES: ANGULAR: ±0.3		FINISH: SEE EXPLODED VIEW	DESIGN AND CONSTRUCTION: SEE EXPLODED VIEW	DO NOT SCALE DRAWING	SHEET: A3
NAME: LIT	DATE: 29/10/2008	DATE: 29/10/2008	PART NO: 973 x90 XX		
NAME: CD	DATE: 29/10/2008	TITLE: Rotary Throttle Control			
DRAWN: LIT		MATERIAL: See exploded view		DWG NO: 503 421	REV:
CHKD: CD		WEIGHT: 100 g (without handle)		SCALE: 1:1	SHEET 1 OF 1
This drawing is confidential and remains the property of Mobile Control Systems S.A. It is not to be used in reproduction without the prior written consent of MCS.					

## 4. Typical Applications:



## 5. 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          |