

Electronic Ergonomic Throttle Pedal 966 000 series



1. Mechanical Specifications:

- The activation forces of the pedal are equal to 16N in the idle position and 33N in the full position. Those values are measured at 200mm of the pedal rotation point.
- Polyamide (injection molded) PA66 + 30% Glass Fiber
- Adaptable mounting plate (interchangeable with 962000 or 965000 wide series)
- Complies with FMVSS 124

Travel angle	17°
Angle option	33°, 39°, 45°, 51°
Protection classification	At least IP66 (IP67 if LHE sensor) Test can increase the IP class
Storage temperature	-40°C to +95°C
Operating temperature	-40°C to +85°C
Connector	AMP - 6 pins

- Options:
 - Mechanical Kick down virtual feedback and kick down signal (activation at 15° of the travel angle)
 - Swivel arm
 - Mechanical switch (NC or NO switch signal)
 - Inclination of the sensor (20°)
 - 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.

For available programmable sensor models, please refer to pages 4 and 5.

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

Analogue channel:

Current consumption	< 7,5mA
Supply (Vs)	5VDC or Between 8 and 36 VDC
Output signal value	Between 5% and 95% (+/- 1%) of 5VDC
Output current	Max 1mA

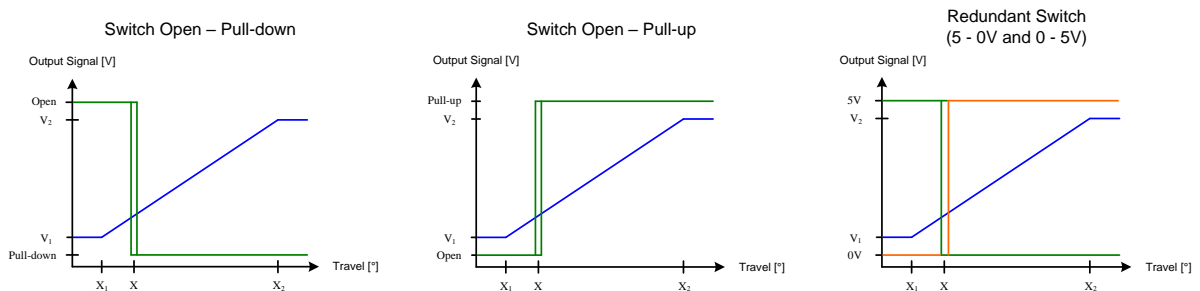
Switch channel option:

Current consumption	< 8.5mA / channel (5VDC) or < 10mA / channel (8..36VDC)
Supply (Vs)	5VDC or Between 8 and 36VDC
Idle Validation Switch	Configurable (5-0V or 0-5V with 5VDC) or (Open collector, Pull-up or Pull-down with 8..36VDC)
Output current	Max 1mA / channel (5VDC) or Max 10mA / channel (8 .. 36VDC)

Switch channel option 2:

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

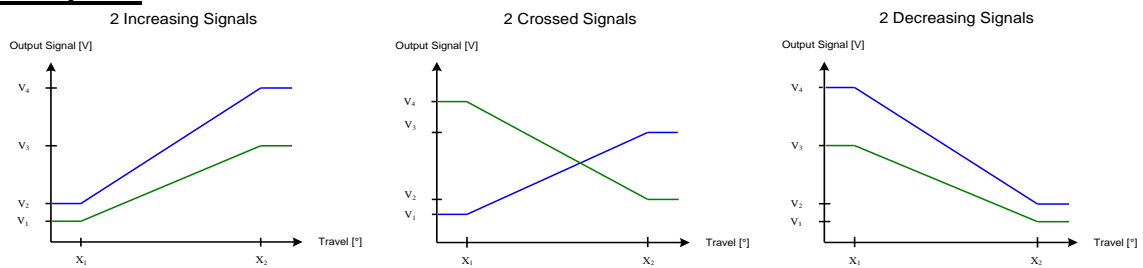
Examples:



B/ Programmable dual output analogue sensor

Current consumption	< 8.5mA / channel
Supply (Vs)	5V DC / channel
Output channel #1	Between 0% and 100% (+/- 1%) of Vs
Output channel #2	Between 0% and 100% (+/- 1%) of Vs
Output current	Max 1mA / channel

Examples:



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

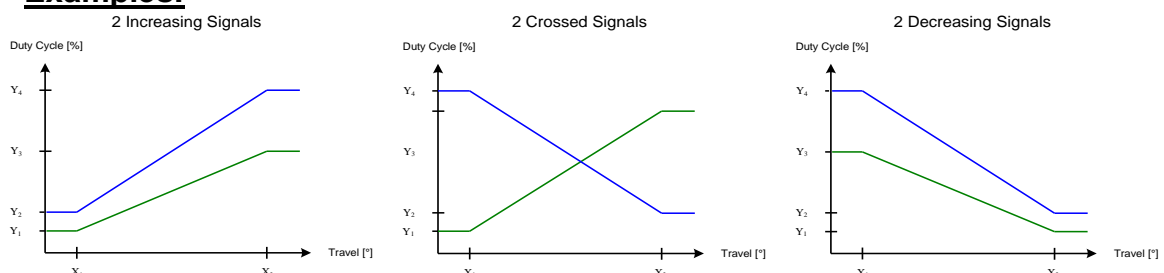
Digital channel(s):

Current consumption	< 8.5mA / channel (5VDC) or < 12mA / channel (8..36VDC)
Supply (Vs)	5VDC or Between 8 and 36 VDC
Output channel #1	Duty cycle between 5% and 95% (+/- 1%)
Output channel #2	Duty cycle between 5% and 95% (+/- 1%)
Frequency	200Hz to 500Hz +/-15%
Output current	Max 1mA / channel (5VDC) or Max 10mA / channel (8 .. 36VDC)

Optional switch channel with single digital output:

Current consumption	< 8.5mA / channel (5VDC) or < 12mA / channel (8..36VDC)
Supply (Vs)	5VDC or Between 8 and 36VDC
Idle Validation Switch	Configurable (5-0V or 0-5V with 5VDC) or (Open collector, Pull-up or Pull-down with 8..36VDC)
Output current	Max 1mA / channel (5VDC) or Max 10mA / channel (8 .. 36VDC)

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.

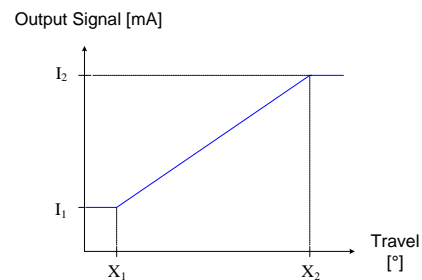
Electrical specifications:

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



B/ 4-20mA current output signal(s)

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



C/ Customized parts available



With different mounting plate



With mechanical switch

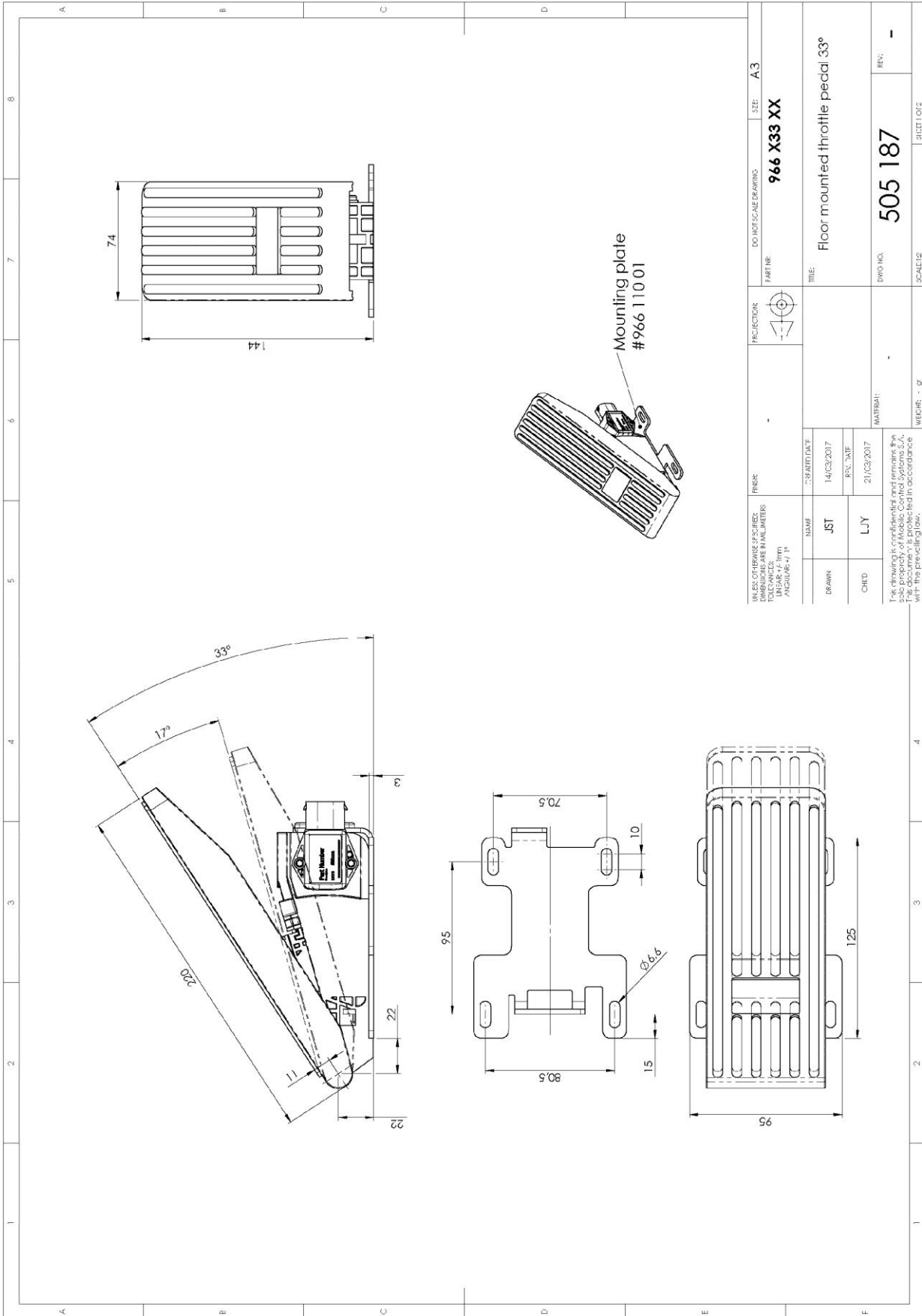


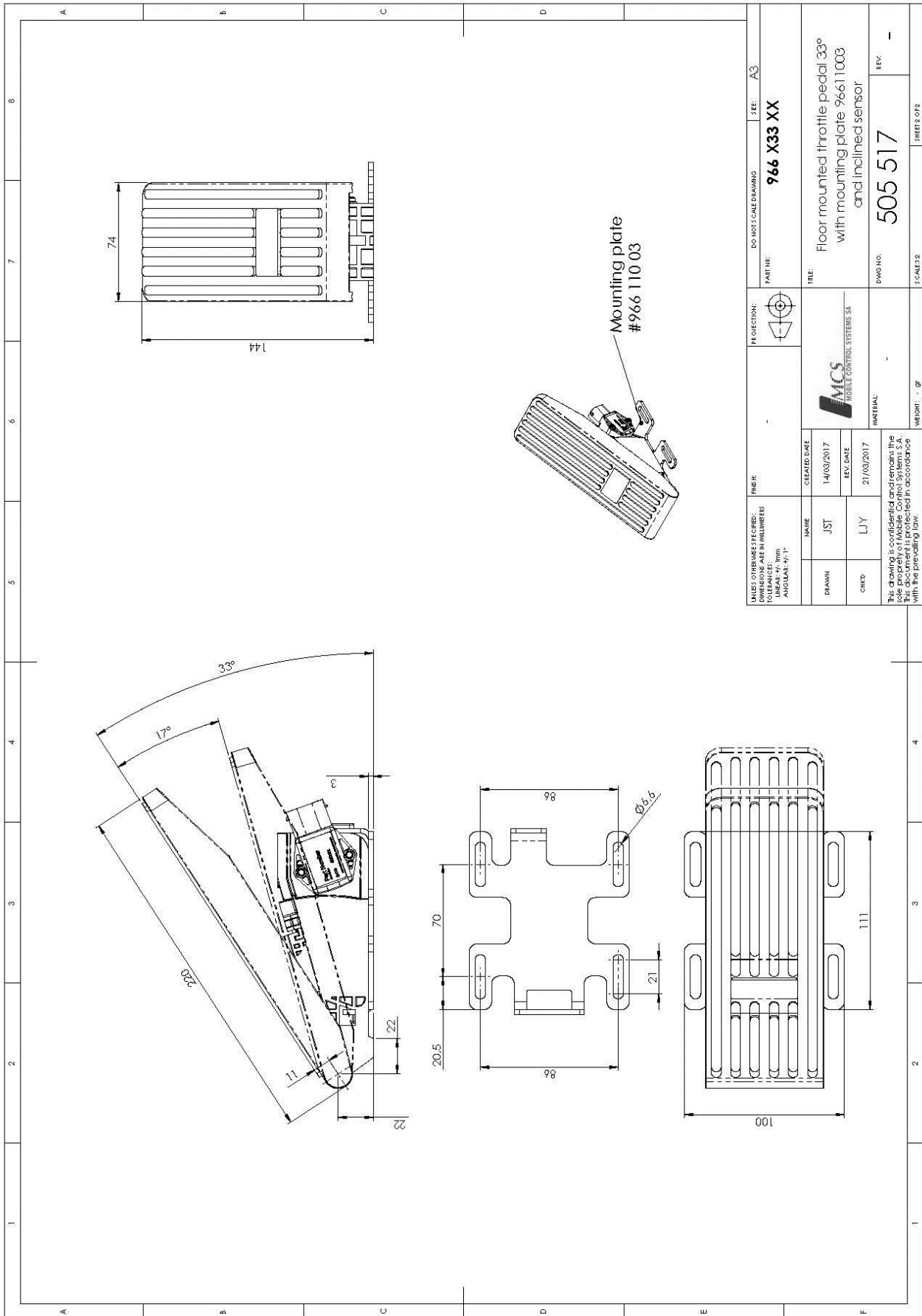
With inclined sensor

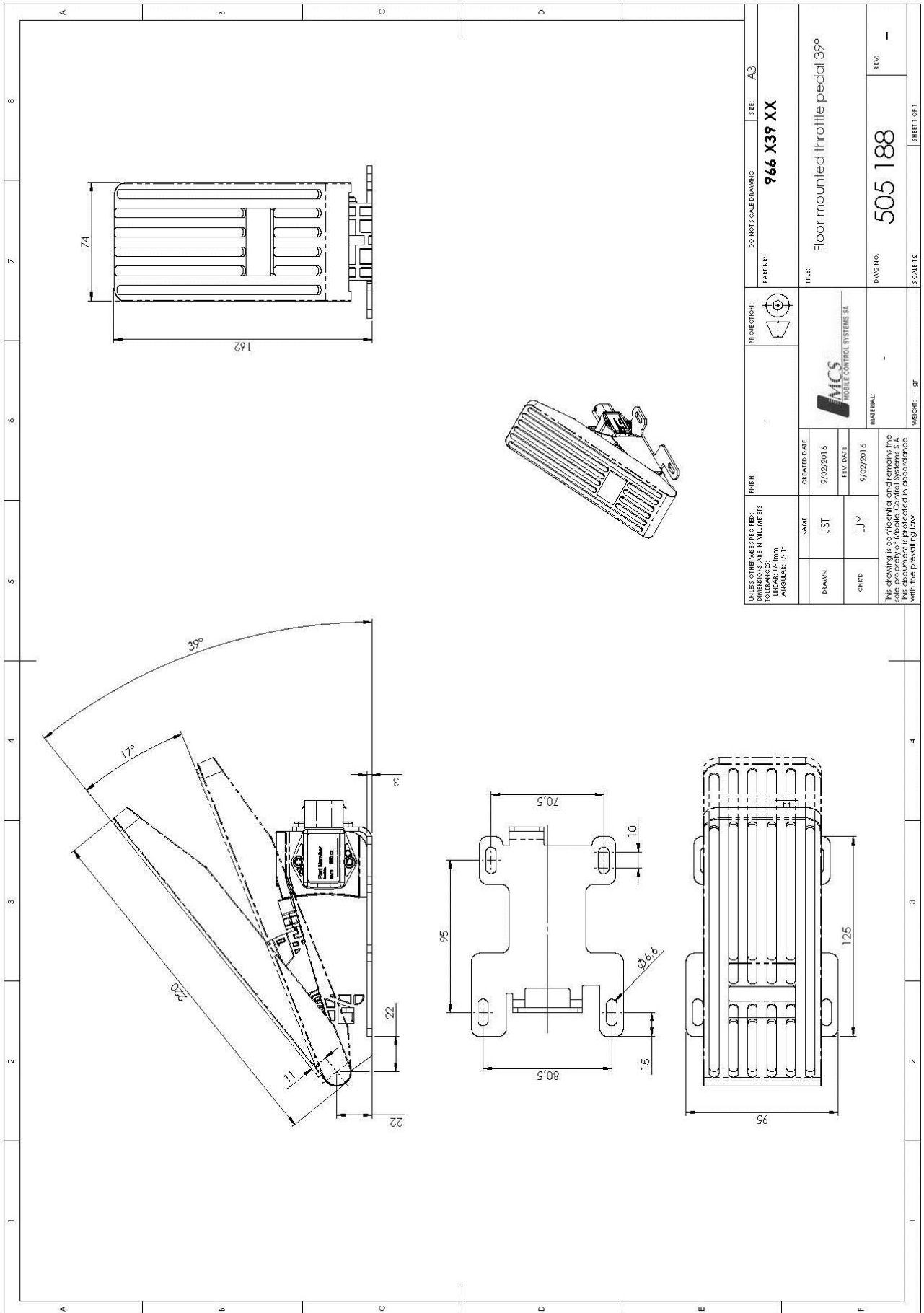


With swivel arm

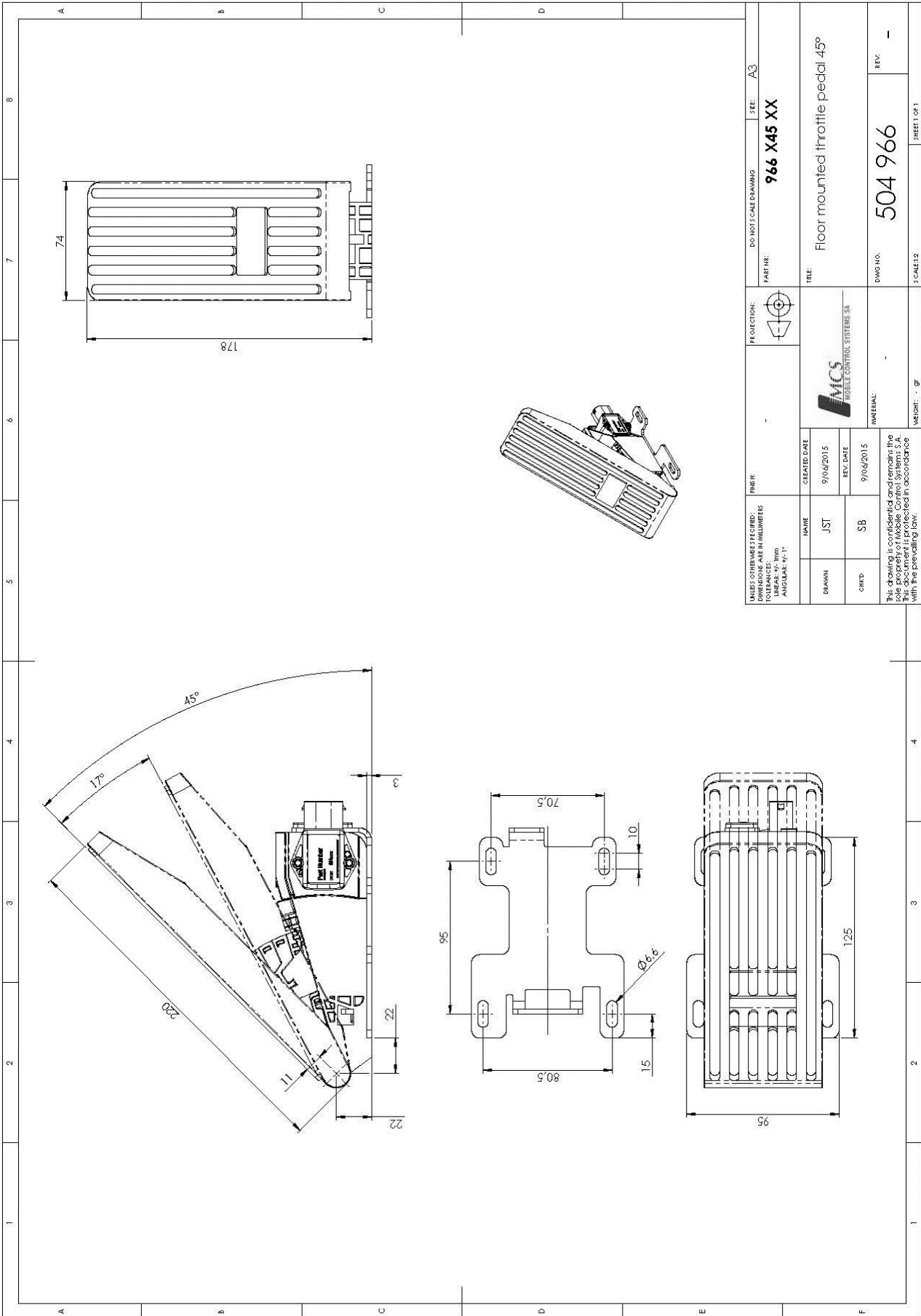
4. Drawings:



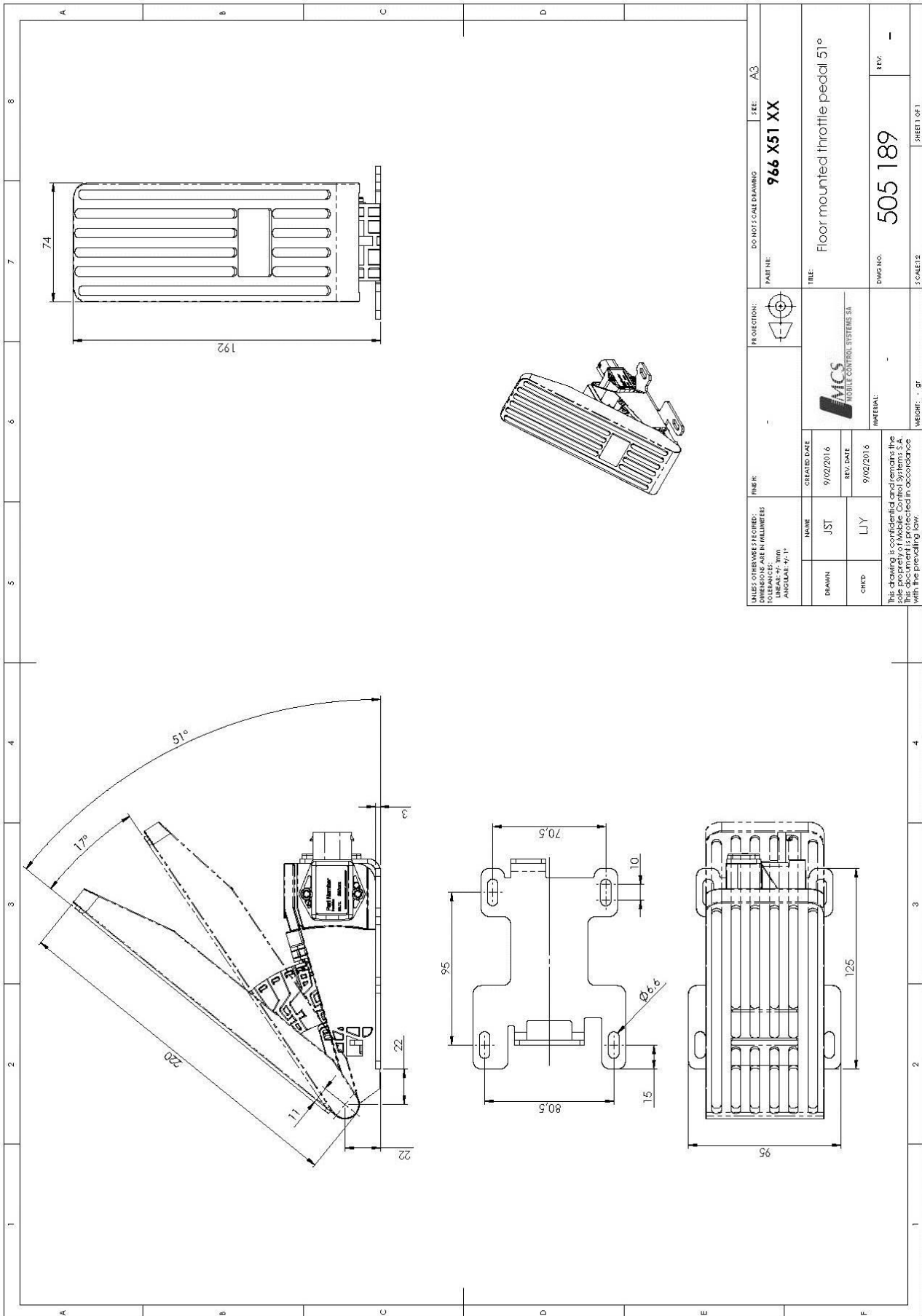




UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: LINEAR: ±0.10mm ANGULAR: ±0.1°		FINISH:	PROJECTION:	DO NOT SCALE DRAWING	SEE: A3
NAME: JUST	CREATED DATE: 9/02/2016	REVISION:	966 X39 XX	PART NAME:	
CHD: LUY	REV. DATE: 9/02/2016	TITLE: Floor mounted throttle pedal 39°		DWG. NO.: 505 188	
MATERIAL:		MATERIAL:		REV: -	
This drawing is confidential and remains the sole property of Mobile Control Systems S.A. It is not to be reproduced, copied, or used in any way without the prior written consent of Mobile Control Systems S.A. in accordance with the applicable law.		MATERIAL:		SCALE: 1:1	
MATERIAL:		MATERIAL:		SHEET 1 OF 1	

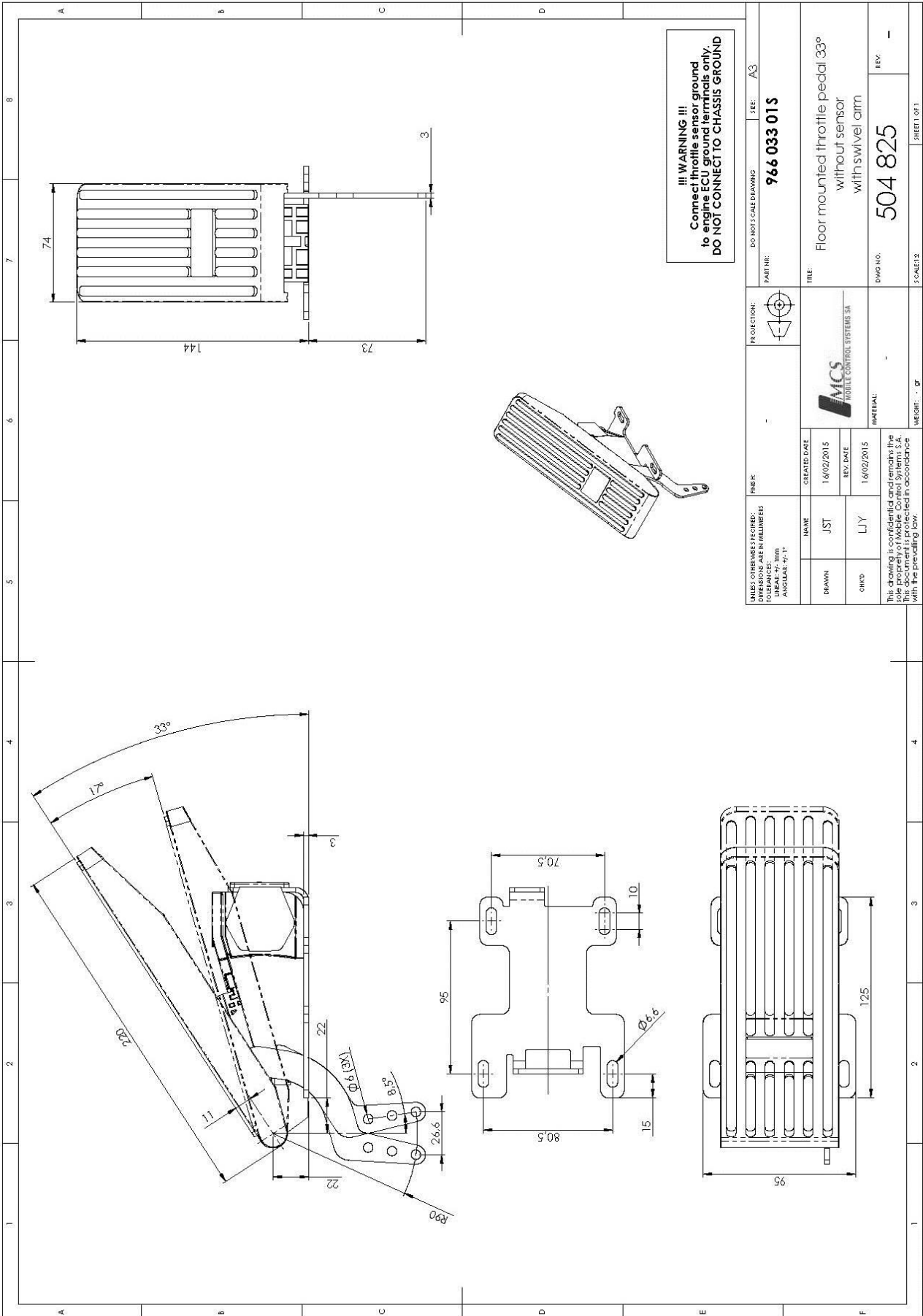


UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETRES TOLERANCES: LINEAR: +/- 0.10mm ANGULAR: +/- 1°		PROJECTION:		DO NOT SCALE DRAWING	SEE: A3
NAME	CREATED DATE	PART NO:		966 X45 XX	
DRAWN	9/06/2015	TITLE:		Floor mounted throttle pedal 45°	
CHKD	9/06/2015	MATERIAL:		504 966	
This drawing is confidential and remains the property of MCS. This document is protected in accordance with the prevailing law.		MATERIAL:		DWG NO.	REV:
		MATERIAL:		504 966	-
		WEIGHT: . . g		S:CAE12 SHEET 1 OF 1	



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETRES TOLERANCES: LINEAR: ±0.10mm ANGULAR: ±1°		PROJECTION: 		DO NOT SCALE DRAWING	SEE: A3
DRAWN: JST		CREATED DATE: 9/02/2016		PART NO: 966 X51 XX	
CHKD: LIY		REV. DATE: 9/02/2016		TITLE: Floor mounted throttle pedal 51°	
NAME:		MATERIAL:		DWG NO. 505 189	
DRAWN:		REV. DATE:		REV. -	
CHKD:		MATERIAL:		SCALE: 1:1	
NAME:		MATERIAL:		WEIGHT: . . . g	
DRAWN:		REV. DATE:		SHEET 1 OF 1	
CHKD:		MATERIAL:		SHEET 1 OF 1	

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5. Typical Applications:



6. Compatible with the following engines:

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