Das4 EVO - Replaced by Digitek Cobra

Data Logger

Das4 EVO is a versatile data acquisition unit developed by Magneti Marelli for racing applications which require high resolution data from a large number of channels.

The unit is equipped with two CAN controllers allowing greater flexibility in the design of the on-board system architecture.

The unit is compatible with Magneti Marelli's SYNAPSE and WINTAX PC software tools and connects via a standard Ethernet network adapter card (not supplied).

The 16 single-ended analogue inputs and 4 input capture channels complement the 2 CAN lines making the unit ideal for applications which combine chassis and engine analysis.

Technical data

Logging

Memory	24	Mbytes
Logging capacity	40	Kbytes/s
Sampling frequency	1 - 1000	Hz
Channels	256 max.	
Max. lap length (firmware limit)	3	Mbytes

Analogue Inputs

Single ended inputs (AIN1…16)	16	
Input voltage range	0 - 5	V
Input filters		
anti-aliasing	500	Hz
Resolution	12	bit
Precision	± 1	LSB
Over voltage protection	60	V
	for 1	s

Digital Inputs

Input capture (IC1…4)	4	
threshold	3.35	V
max. frequency	5	kHz
max. input voltage	± 25	V
representation	2	µs/LSB
pull-up to 5 V	10	kΩ
Counters	4	
source	IC1…4	
representation	16-bit signed integer	
On/Off	2	
type	TTL	
trigger	rising edge	
applications	beacon Ą track marker	
	marker Ą manual marker	

Communications

CAN lines	2	
speed	1	Mbit/s
terminations	pinout selectable	
identifiers	standard 11	bit
applications	data acquisition	
	dashboard comm.s	
Ethernet	1	
physical	10BaseT	
protocol	TCP\IP	
applications	download	
	logger setup	
RS232	1	
applications	code load	
	real time telemetry	

Electrical / Mechanical Characteristics

Voltage reference	3	
voltage	5	V
max combined current	50	mA
Power supply	7 - 18	Vdc
(without other sensors)	typ. 160	mA
protection	load dump	
	polarity inversion	
	short circuit to VBatt & GND	
Ambient operating temperature	0 - 55	°C
Shock	50	g
	10	ms
Vibration tested at	10	g
	1500	Hz
Dimensions		
(box w/o connector)	90x102x40.5	mm
Weight	380	g
Container	black anodised aluminium	IP64
Connector (Amphenol part no.s)		
logger	SJT00RT-16-35PN	
loom	SJTG06RT-16-35SN	

Ordering Information

Label	Description	Order code
Das4 EVO	Data Logger + Mating connector	08381611760200

CAN terminations selected on connector

For further details please contact

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RG20 6NE
England

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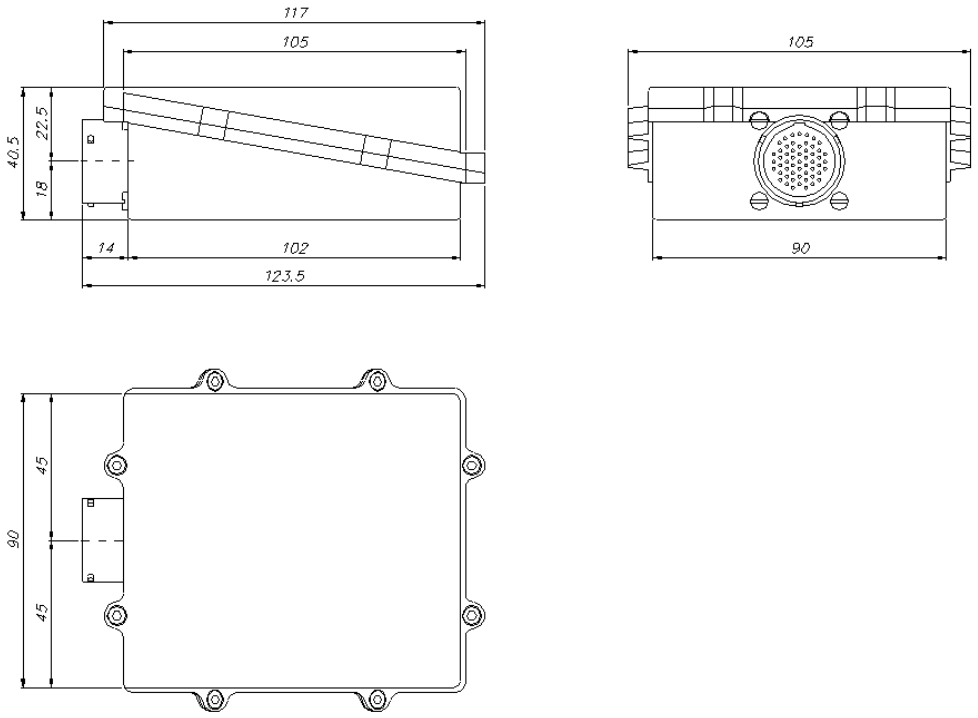
Characteristics

- 24 MB memory
- Sampling rates up to 1000 Hz
- Up to 256 logged channels
- Up to 40 Kbytes/sec logging rate
- 16 analogue inputs
- 4 wheel speed inputs
- Event-triggered logging
- 2 CAN lines
- High speed download via standard 10BaseT Ethernet card
- Real time telemetry output (RS232, 38.4 kbps)
- Compatible with Marelli dashboards
- Free WintaxJ analysis software (compatible Win95/98/NT/2K/XP)
- Supplied with mating loom connector
- Small, light, robust

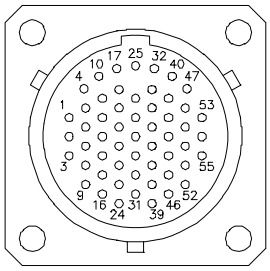
Dimensions



Dimensions in millimetres.

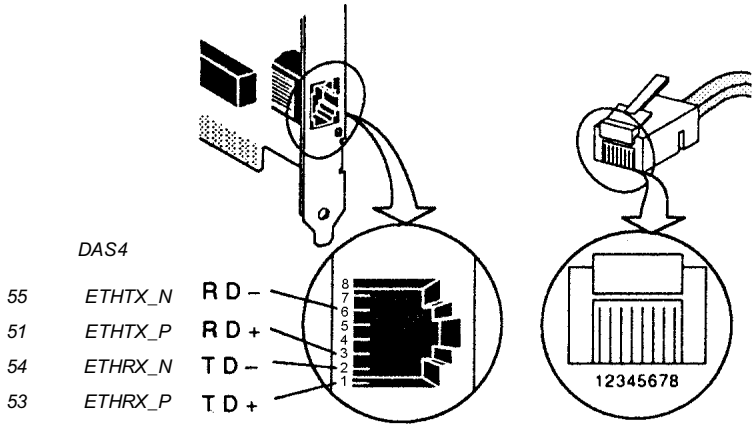
Connector Pin Out

Das4 EVO pin-out: SJT00RT-16-35PN								
Pin	**Name**	**descr.**	**Pin**	**name**	**descr.**	**Pin**	**name**	**descr.**
1	**AIN1**	0...5V input #1	**21**	**AGND**	analogue ground[1]	**41**	**RX485_P**	not used
2	**AIN2**	0...5V input #2	**22**	**AGND**	analogue ground[1]	**42**	**RX485_N**	not used
3	**AIN3**	0...5V input #3	**23**	**AGND**	analogue ground[1]	**43**	**CAN1_T**	Connect to CAN1_P to terminate CAN1
4	**AIN4**	0...5V input #4	**24**	**AGND**	analogue ground[1]	**44**	**CAN1_P**	CAN1 positive
5	**AIN5**	0...5V input #5	**25**	**POWER**	max 18V DC	**45**	**CAN2_P**	CAN2 positive
6	**AIN6**	0...5V input #6	**26**	**SHIELD**	shield	**46**	**CAN2_T**	Connect to CAN2_P to terminate CAN2
7	**AIN7**	0...5V input #7	**27**	**GND_PWR**	ground supply[1]	**47**	**TX232**	Tx RS232[3]
8	**AIN8**	0...5V input #8	**28**	**GND_DIN**	digital ground	**48**	**TX485_P**	not used
9	**AIN9**	0...5V input #9	**29**	**MARKER**	spare digital input	**49**	**TX485_N**	not used
10	**AIN10**	0...5V input #10	**30**	**BEACON**	track marker (internal pull-up 10kΩ to 5V)	**50**	**CAN1_N**	CAN1 negative
11	**AIN11**	0...5V input #11	**31**	**CODELOAD**	ground for codeload - do not connect on car loom	**51**	**ETHTX_P**	Tx Ethernet positive[3]
12	**AIN12**	0...5V input #12	**32**	**GND_232**	ground RS232[1]	**52**	**CAN2_N**	CAN2 negative
13	**AIN13**	0...5V input #13	**33**	**GND_485**	ground RS485[1]	**53**	**ETHRX_P**	Rx Ethernet positive[3]
14	**AIN14**	0...5V input #14	**34**	**GND_CAN**	ground CAN1&2[1]	**54**	**ETHRX_N**	Rx Ethernet negative[3]
15	**AIN15**	0...5V input #15	**35**	**GND_IC**	digital input capture ground[1]	**55**	**ETHTX_N**	Tx Ethernet negative[3]
16	**AIN16**	0...5V input #16	**36**	**IC_1**	internal pull-up 10kΩ to 5V			
17	**VREF**	5V reference[2]	**37**	**IC_2**	internal pull-up 10kΩ to 5V			
18	**VREF**	5V reference[2]	**38**	**IC_3**	internal pull-up 10kΩ to 5V			
19	**VREF**	5V reference[2]	**39**	**IC_4**	internal pull-up 10kΩ to 5V			
20	**AGND**	Analogue ground[1]	**40**	**RX232**	Rx RS232[3]			



Application notes

PC RJ45 Ethernet connection



RJ-45 Connector Pin Assignments

[1] All grounds connected internally

[2] Max. 50 mA total combined output of VREFs

[3] All Rx and Tx as seen from data logger