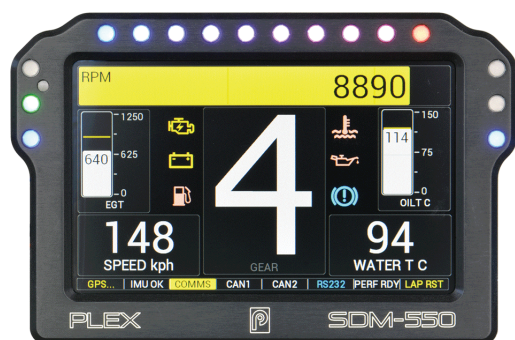# PLEX SDM-550®
5'' Pro-level Display Logger with built-in 25Hz GNSS

Description

The PLEX SDM-550® is 5'' All-in-One Pro-level Display Logger for Demanding and Quality Driven Customers. Housed in a light-weight CNC aluminum enclosure with IP67 protection, the SDM-550 features a 1k cd bright IPS TFT display and comes with our renowned proprietary clean UI that places emphasis on effectiveness vs impression. A built-in 25Hz GNSS module with dead reckoning ensures accurate lap timing even in low signal conditions. Configuration via WiFi, CAN BUS or USB is very fast & intuitive and USB data logging diminishes file downloading time. The SDM-550® runs on a powerful multi-core processor which guarantees high performance even with the most complex configurations.

Applications

- Automotive
- Motorcycle
- Snowmobiles
- Marine
- Off-road

Key Features

▶ 5'' High-brightness & contrast IPS Display with broadband anti-reflective glass

▶ Ultra compact & rugged enclosure with IP67 protection

▶ Powerful multi-core processor

▶ Fully configurable CAN BUS, I/Os and UI

▶ Fast & Easy WiFi configuration

▶ Unlimited USB data-logging

▶ Built-in 25Hz GNSS / 100Hz IMU modules

▶ Integrated Performance Meter Functionality

Price

1599EUR

Technical Specifications

Inputs	
Analog/Digital/Frequency 0-5V	4
Analog/Digital/Frequency 0-16V	4
Switch/Button Inputs	2

Outputs	
AUX High Side	2 (lim 3A)
LEDs	16 RGB

Communications	
Can Bus Ports	2
RS-232 Ports	1 (shared with CAN2)
Lin Bus Ports	1
USB	1 (for config. & logging)
WiFi	for configuration

Internal Sensors	
Real Time Clock	with battery backup
Device/Sensor voltage monitor	+12V supp./+5V sensor supply
Device Temperature monitor	Yes
Ambient light sensor	Yes
Accelerometer/IMU	built-in/100Hz
GPS / GNSS	built-in (25Hz)

Data Channels	
Max Data Channels	256 (option for more)
Max Flag Channels	256 (option for more)

Technical Specifications - Continued

Data-logging continued

Memory	USB Flash Drive (option)
Log Rate Max	500Hz
Engine Log	Yes
Alarms Log	Yes
Lap Times log	yes
Performance Times log	yes

Calculations

Lap Times	Yes
Acceleration Performance	Yes
Engine Power & Torque	Yes
Math Channels	16 (option for more)
Trip Meters	4

Screen

Type	RGB TFT IPS wide temp
Size	800 x 480 pixels
Brightness	xxxcd
Refresh rate	50Hz
Display glass	ARC high-efficiency broad-band anti-reflection

User Interface

# of Pages	up to 48
Custom page design	yes
Colour themes	yes

Electrical Data

Supply Voltage Range	9-30V DC
Current Consumption	max. 2A at 12V

Operating Conditions

Temperature Range	-20 to +60 degC

Physical

Connectors	TE Series 26 pins
Dimensions mm	width: 145, height: 95, depth 16/xxmm
Weight	315g
Material	CNC machined aluminum
Sealing / Ingress Protection	IP67 - dust tight, protected against water immersion

Improvements vs discontinued SDM-500

- Fully re-designed electronics and hardware
- More powerful processor with multi-core capacity
- Improved TFT display / better viewing angle
- Enhanced design / form factor
- Weather and dust protection (IP67)
- Fully configurable RGB LED lights
- Automotive grade sealed connector with more pins
- Significantly more default inputs and outputs
- Enhanced 25Hz GNSS module
- 100Hz Inertial Measurement Unit
- Improved graphics and customisation
- Enhanced electrical protection

Product Versions

SDM-550-DLG	Display with USB logging and built-in 25Hz GNSS/100Hs IMU modules

Control Add-ons

BLMKT-4K	4button weather sealed keypad with configurable CAN BUS
BLKM-PT	6button weather sealed with rotary controller

What's In The Box

- Display
- Loom connector
- Pins /Plugs
- USB cable
- USB stick (optional)
- GPS Antenna

Software

PLEX Device Manager V2	configuration	free
PLEX PDA-WIN	data analysis	free
PLEX PDA-WIN-PRO	data analysis	paid

Recommended USB Stick / Format

Sandisk Ultra Fit USB 3.1 (16 or 32GB)	Format as FAT32 with 512B allocation size

PLEX SDM-550®

Indicative List of Compatible After Market ECU Brands & CAN Devices

Fully configurable CAN Receive & Transmit	MAGNETI MARELI
AIM	MAXX ECU
BLINK MARINE	MBE
BOSCH MOTORSPORT	MECTRONIK
CARROT	MEGASQUIRT
COSWORTH	MME
DTA	MOTEC
ECUMASTER	MSEL
EFI	PECTEL
ELETROMOTIVE	PRO EFI
EMERALD	RACEGRADE
EMTRON	RACELOGIC
E-RACE BLACK	SPECIALIST COMPONENTS
GEMS	SIMTEK
GRAYHILL	SYBELE
HALTECH	SYVECS
HONDATA	TEXENSE
HP ELETRONIC	TREMONDI
KMS	TRIJECT
LIFE RACING	XAP
LINK	

Technical Drawings / Dimensions / Mounting (in mm)
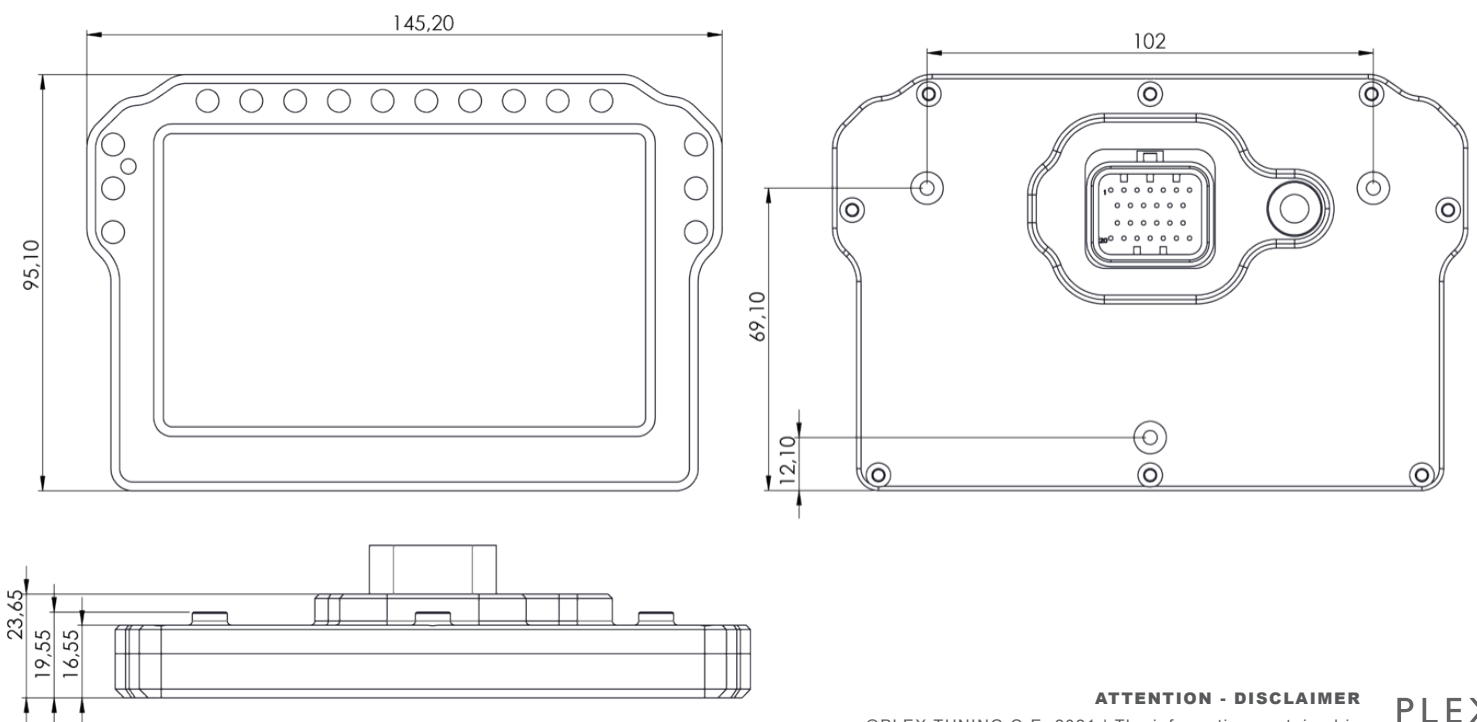
PLEX TUNING

PIN FUNCTIONS - Connector TE 3-1437290-7 (keying 1)

#	LABEL	DESCRIPTION	NOTES
1	+12V	Power supply for the device. 8-18V. Max 0.5A (6.5A with AUX)	Connect to a switched +12V power source
2	GND	Ground supply	Connect to chassis/engine ground
3	+5V	+5V sensor supply	Max current 200mA
4	SGND	Ground supply for sensors	Protected from overcurrent
5	AN1 / DI1	Analog/Digital input 0-5V,selectable pull-up 1K to 5V	
6	AN2 / DI2	Analog/Digital input 0-5V,selectable pull-up 1K to 5V	
7	AN3 / DI3 / FR1	Analog/Digital/Frequency input 0-5V,selectable pull-up 1K to 5V	FR trigger threshold 1.2V
8	CAN 2 LO / RS232 RX	250kbit – 1.333Mbit speed, selectable 120R termination	Optional use as RS232 data input
9	CAN 2 HI		
10	LIN	Lin bus Master connection	Device boots in recovery mode when connected to ground
11	AN4 / DI4 / FR2	Analog/Digital/Frequency input 0-5V,selectable pull-up 1K to 5V	FR trigger threshold 1.2V
12	AN5 / DI5 / FR3	Analog/Digital/Frequency input 0-16V	FR trigger threshold 4V,fixed 16K pull down
13	AN6 / DI6 / FR4	Analog/Digital/Frequency input 0-16V	FR trigger threshold 4V,fixed 16K pull down
14	CAN 1 LO	250kbit – 1.333Mbit speed, selectable 120R termination	
15	CAN 1 HI		
16	RS232-TX	RS232 data output	
17	AN7 / DI7 / FR5	Analog/Digital/Frequency input 0-16V	FR trigger threshold 4V,fixed 16K pull down
18	AN8 / DI8 / FR6	Analog/Digital/Frequency input 0-16V	FR trigger threshold 4V,fixed 16K pull down
19	DI9 / FR7	Digital / Frequency input 0-5V	FR trigger threshold 2V,fixed 100K pullup to 5V
20	USB DATA-P	USB data positive	
21	USB DATA-N	USB data negative	USB Flash Logging and Communications port
22	USB 5V	USB +5V	
23	USB GND	USB ground	
24	AUX2 HS	Auxiliary output – High Side 3A max current	ON/OFF or PWM.Sources current from pin 1
25	AUX1 HS	Auxiliary output – High Side 3A max current	ON/OFF or PWM.Sources current from pin 1
26	DI10 / FR8	Digital / Frequency input 0-5V	FR trigger threshold 2V,fixed 100K pullup to 5V

CONNECTOR WIRE SIDE VIEW (REAR)

1 +12v | gnd | +5v out | sgnd | an1 di1 | an2 di2 | an3 di3/fr1 | 7

8 can2 lo | can2 hi rs232 rx | lin | an4 di4/fr2 | an5 di5/fr3 | an6 di6/fr4 | 13

14 can1 lo | can1 hi | rs232 tx | an7 di7/fr5 | an8 di8/fr6 | di9 fr7 | 19

20 usb dp | usb dn | usb 5v | usb gnd | aux2 | aux1 | di10 fr8 | 26

CONNECTOR PART NUMBERS

LOOM CONNECTOR	TE 3-1437290-7 (keying 1)
WIRE PINS	TE 3-1447221-4
DUMMY PLUGS	TE 4-1437284-3

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