## PROTOTYPE BOARD APPLICATION ADAPTOR FOR EMANT300

The Prototype Board Application Adaptor connects the pin out of the DB25 connector of the **EMANT300** Low Cost USB Data Acquisition Module to your custom application circuit.

It is used for prototyping of PC Based Data Acquisition Solutions. Together with the **EMANT300** Low Cost USB Data Acquisition Module, they allow for connection to real world sensors and signals without the need for fabricating custom printed circuit boards. Soldering is required.

Comprises 2 loose pieces

- 2-layer printed circuit board with plated through 32 x 25 grid holes
- right angled DB25 socket
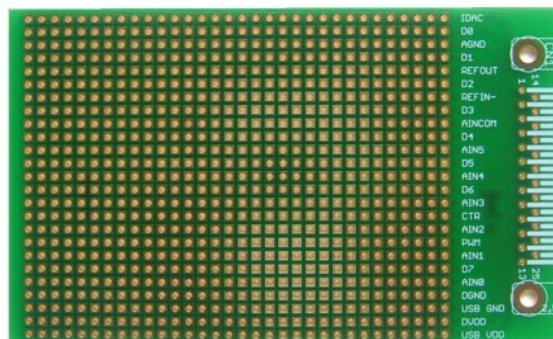
EMANT300 USB DAQ module male DB25 pin out connection to the real world

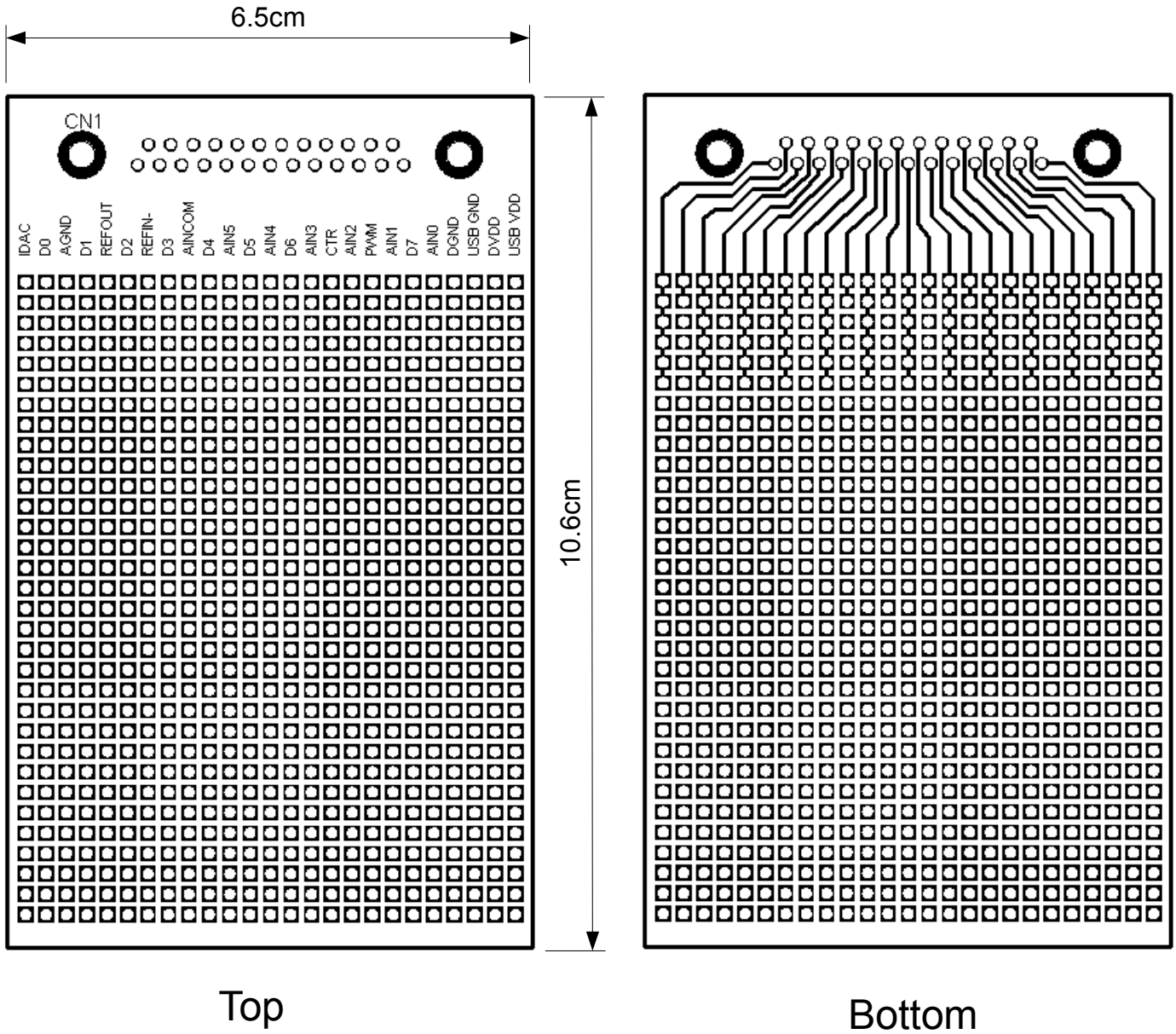| DB25 Pin	Signal Name	Description	DB25 Pin	Signal Name	Description
1	IDAC	Analog Current Output	14	D0	Digital IO
2	AGND	Analog Ground	15	D1	Digital IO
3	REFOUT	Reference Voltage +ve	16	D2	Digital IO
4	REFIN-	Reference Voltage -ve	17	D3	Digital IO
5	AINCOM	Analog Input Common	18	D4	Digital IO
6	AIN5	Analog Input	19	D5	Digital IO
7	AIN4	Analog Input	20	D6	Digital IO
8	AIN3	Analog Input	21	COUNTER	Counter Input
9	AIN2	Analog Input	22	PWM	PWM Output
10	AIN1	Analog Input	23	D7	Digital IO
11	AIN0	Analog Input	24	USB Gnd	USB Supply Gnd
12	USB Gnd	USB Supply Gnd	25	USB 5V	USB Supply 5V
13	USB 5V	USB Supply 5V			

Note: If you are making any analog input measurements, **pin 4 REFIN- must be connected to pin 2 AGND**. When you do this the internal reference is correctly set up.

Pin 2 is connected to pin 4 in other application adaptors that measure analog inputs, like the light application adaptor and strain application adaptor. Not all applications require this connection eg when using an external reference or making ratiometric measurements. If you are using the internal reference (default setting), this must be done.

Warning: Please refer to the specifications of the EMANT300 and the respective adaptor before wiring and powering up. Failures resulting from misuse, wrong application, or other causes outside of Emant Pte Ltd's control are not covered by our warranty. Some causes of failures that will void the warranty include

- Applying more than the rated voltage to the inputs. Do not apply more than the rated voltage between terminals, or between terminal and external ground. For the inputs this is within 0V to 5V
- Wrong I/O connections. Observe all markings on the device before connecting to the device.
- Making external connections while powered up. Disconnect the DAQ module from the USB port and any external power before connecting to the I/O terminals.
- Loading output beyond specified limits. Do not load the output terminals above the specified current limits. Shorting outputs will damage the product. For the DIO where the pin can be configured input or output, if you need to tie the signal to VCC or GND, do it through at least a 220 ohm resistor.

Prototype Board for EMANT3X0

6.5cm

CN1

IDAC
D0
AGND
D1
REFOUT
D2
REFIN-
D3
AINCOM
D4
AIN5
D5
AIN4
D6
AIN3
CTR
AIN2
PWM
AIN1
D7
AIN0
DGND
USB GND
DVDD
USB VDD

10.6cm

Top

Bottom

Pitch = 2.54 mm