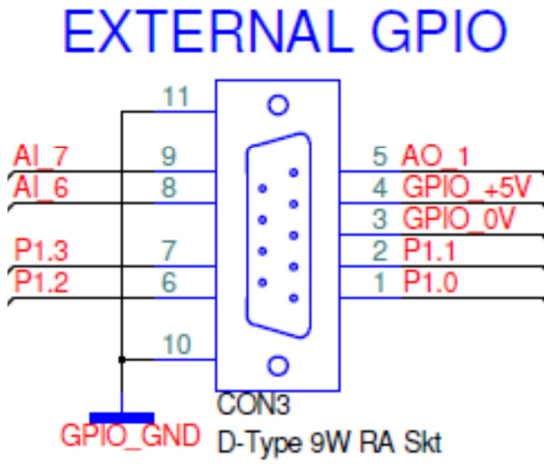
Lonestar GPIO port pin-out and control notes

Issue/Version	Date	Author	Details
AAA	13/11/2012	Graham Newell	The Original
AAB	13/11/2015	Andrew Pauza	Updated with Cognidox PN, reformatted.
AAC/D	26/7/2017	Andrew Pauza	Further formatting. Add text “DF Matrix (Lab user) for clarity.



Pin	Label	Type	Details
1	P1.0	Digital in	Lonestar Trigger[1]
2	P1.1	Digital out	Continuous mode – high on red[2]
3	GPIO_0V	-	0V
4	GPIO_+5v	-	5V output[2]
5	A0_1	Analogue out	DF Matrix (Lab User)/Analyser mode – 0-5V scaled to 1st analyte concentration, if no analytes follows event_in_progress[3] Continuous mode – follows event_in_progress[3]
6	P1.2	Digital out	Continuous mode – high on amber[2] DF Matrix (Lab User)/Analyser mode – follows event_in_progress[3]
7	P1.3	Digital out	Continuous mode – high on green [2]
8	AI_6	Analogue in	Available
9	AI_7	Analogue in	Not connected as standard
10	GPIO_GND	-	Ground
11	GPIO_GND	-	Ground

Notes

1. The Lonestar trigger is used to synchronise the start of a DF matrix collection with an external input. If the pin is left floating (unconnected) then the matrix was be collected as normal; If held low at 0V upon pressing start the system will enter an “awaiting trigger mode”, the matrix will then start once a 5V signal is applied (trigger on rising edge). The state of the pin when the matrix is complete will dictate whether it re-enters “awaiting trigger mode” or continues scanning
2. All outputs are limited to a 20mA draw. A high power relay or similar should be used if a higher output is required.
3. Event_in_progress is a 5V digital output indicating whether the Lonestar is collecting data or not, it can be used to trigger external events (used to run stirrer on at line sampling module) or provide a timing pulse/trigger for external equipment. By default it is low when off and high when sampling however this can be inverted using the National Instruments measurement and automation software included with the Lonestar by selecting channel amber and ticking the “Invert” radio button.