USERS MANUAL

SP Leinonen PDSX-2

SP LEINONEN PDSX-2 TECHNICAL SPECS

Software:

SP Leinonen GUI2

Hardware:

Communication:

ON-Board USB (Mini)

CAN-bus

Inputs:

16 Digital Inputs

4 Analog Inputs 0-32V

Outputs:

16 x Digital Outputs

10A / Output

Outputs 6-10 can use 2 pins, then max output current is 20A / output

WIRING AND I/O

PDSX-2 CONNECTORS PINOUT AND FUNCTIONS TABLE

PDSX-2

	A	B	C		D	E	F
	Out 16	Out 15	Out 14		Out 13	Out 12	Out 11
1	o	o	o		o	o	o
	Input 16	Input 14	Input 12		Input 10	An In 4	An In 2
2	o	o	o		o	o	o
	Input 15	Input 13	Input 11		Input 9	An In 3	An In 1
3	o	o	o		o	o	o

	A	B	C	D	E		F	G	H	J	K
	Out 10	Out 9	Out 8	Out 7	Out 6		Out 5	Out 4	Out 3	Out 2	Out 1
1	o	o	o	o	o		o	o	o	o	o
	Out 10	Out 9	Out 8	Out 7	Out 6		Input 8	Input 6	Input 4	Input 2	GDN 1
2	o	o	o	o	o		o	o	o	o	o
	nc	nc	nc	CAN L	CAN H		Input 7	Input 5	Input 3	Input 1	GND 2
3	o	o	o	o	o		o	o	o	o	o

1A. Out 16: 10A	
1B. Out 15: 10A	
1C.Out 14: 10A	
2A. Input 16:	
2B. Input 14:	
2C. Input 12:	
3A. Input 15:	
3B. Input 13:	
3C. Input 11:	

1D. Out 13: 10A	
1E.Out 12: 10A	
1F. Out 11: 10A	
2D. Input 10:	
2E. Analog in 4:	
2F. Analog in 2:	
3D.Input 9:	
3E. Analog in 3:	
3F. Analog in 1:	

1A. Out 10: 10A	
1B. Out 9: 10A	
1C. Out 8: 10A	
1D. Out 7: 10A	
1E. Out 6: 10A	
2A. Out 10: 10A	
2B.Out 9: 10A	
2C.Out 8: 10A	
2D. Out 7: 10A	
2E. Out 6: 10A	
3A. nc	
3B. nc	
3C. nc	
3D. CAN L	
3E. CAN H	

1F. Out 5: 10A	
1G. Out 4: 10A	
1H. Out 3: 10A	
1J. Out 2: 10A	
1K. Out 1: 10A	
2F. Input 8:	
2G. Input 6:	
2H. Input 4:	
2J.Input 2:	
2K. GND 1	
3F. Input 7:	
3G. Input 5:	
3H. Input 3:	
3J. Input 1:	
3K. GND 2	

Output 6-10 have 20A max output current when used 2 pins like 1A and 2A in same time.
Single pin max. 10A for maximum safety.

Analog in is 0-18V tolerant.

DISCLAIMER AND THE "WORD FOR THE GREEN"

This product is sold for OFF ROAD RACE-ONLY AND GROUND VEHICLE use only, or vehicles that pre-date any federal and state emissions control requirements. Aftermarket systems are not for sale or use on pollution controlled vehicles. Alteration of emission related components constitutes tampering under the US EPA guidelines and can lead to substantial fines and penalties. Your country/state/district may also have specific rules restricting your tampering with your vehicle's emissions system.

Race parts are inherently dangerous and may cause injury or damage if improperly modified or altered before use. The publishers of this manual will not be held liable for and will not pay you for any injuries or damage caused by misuse, modification, redesign, or alternation of any of our products. The publishers of this manual will not be held in any way responsible for any incidental or consequential damages including direct or indirect labor, towing, lodging, garage, repair, medical, or legal expense in any way attributable to the use of any item in our catalog or to the delay or inconvenience caused by the necessity of replacing or repairing any such item.

GENERAL INFO FOR MAKING WIRING

Purpose of this chapter is to give enough information to make a successful install and let you enjoy all the easiness of the concept of PDSX-2.

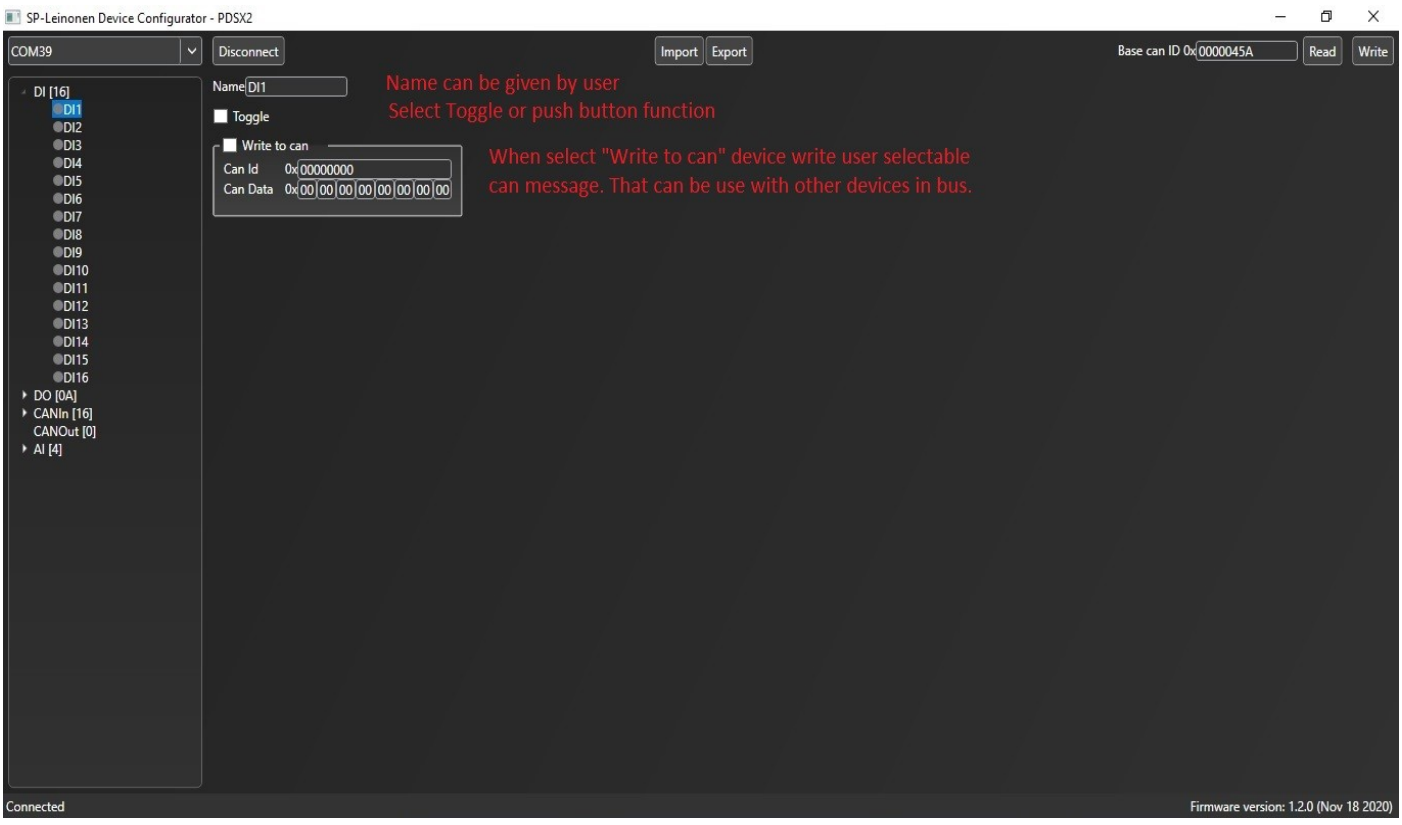
POWER FEEDS AND GROUNDS

Powerfeed comes straight from the battery or main power switch. We recommend SP Leinonen electronic main power switch for thath

DIGITAL INPUTS

Digital inputs should be grounding switches. For that normal switching button can be used, or for example Engine management grounding output. Usually all engine management outputs are grounding, but check from engine management system user manual. All inputs can be named by user and they can use Toggle or Push button input switches

State of digital input switch can be writen to CAN-Bus also, so it's possible to use same switch to do functions at PDSX-2 and another equipment in CAN-Bus. Or, you can just write the status into CAN-Bus, and use these digital inputs as additional switch inputs for equipment in CAN-bus. For example, if running out of inputs in ECU and wanting to add Launch control button.

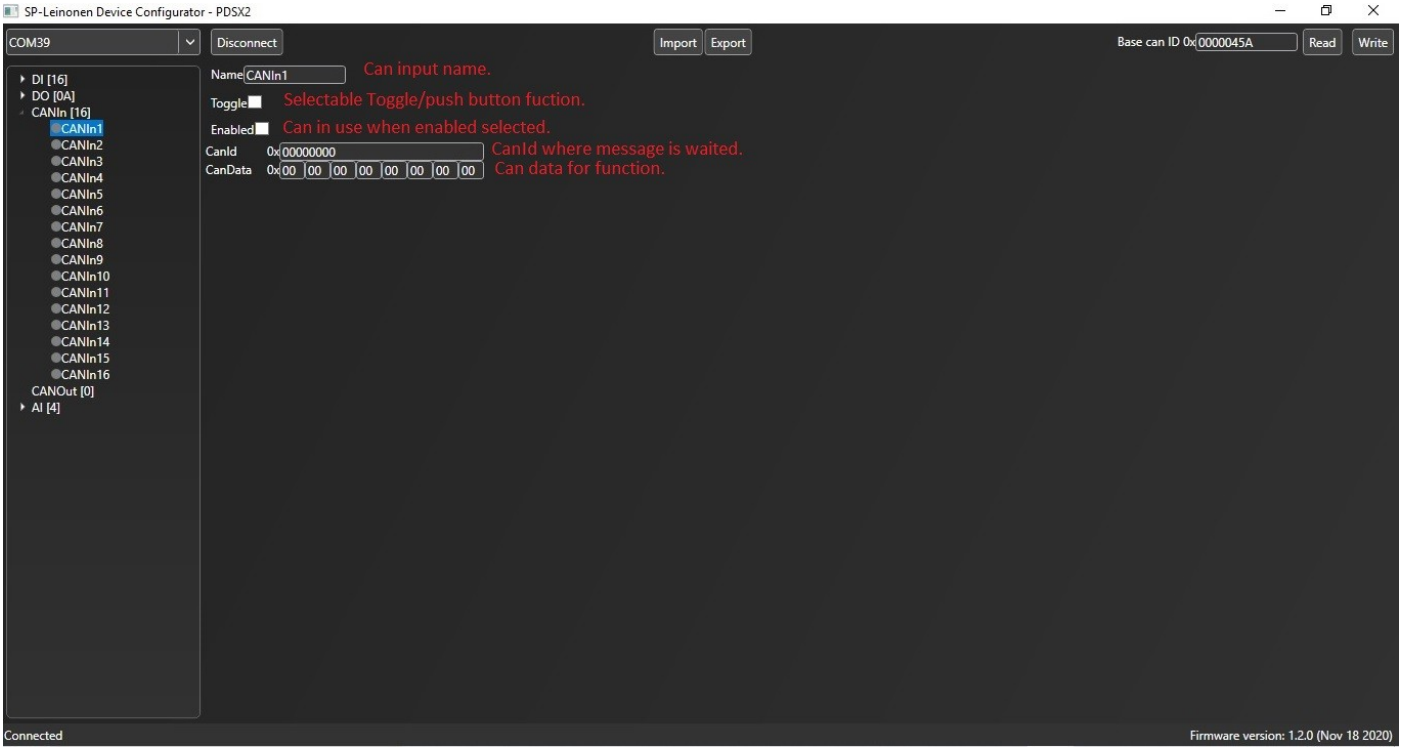


ANALOG INPUTS

There is 4 analog inputs at PDSX-2. Those can be used as multiposition switch inputs. There is possibility to make 16 different set points depending on a voltage at input.

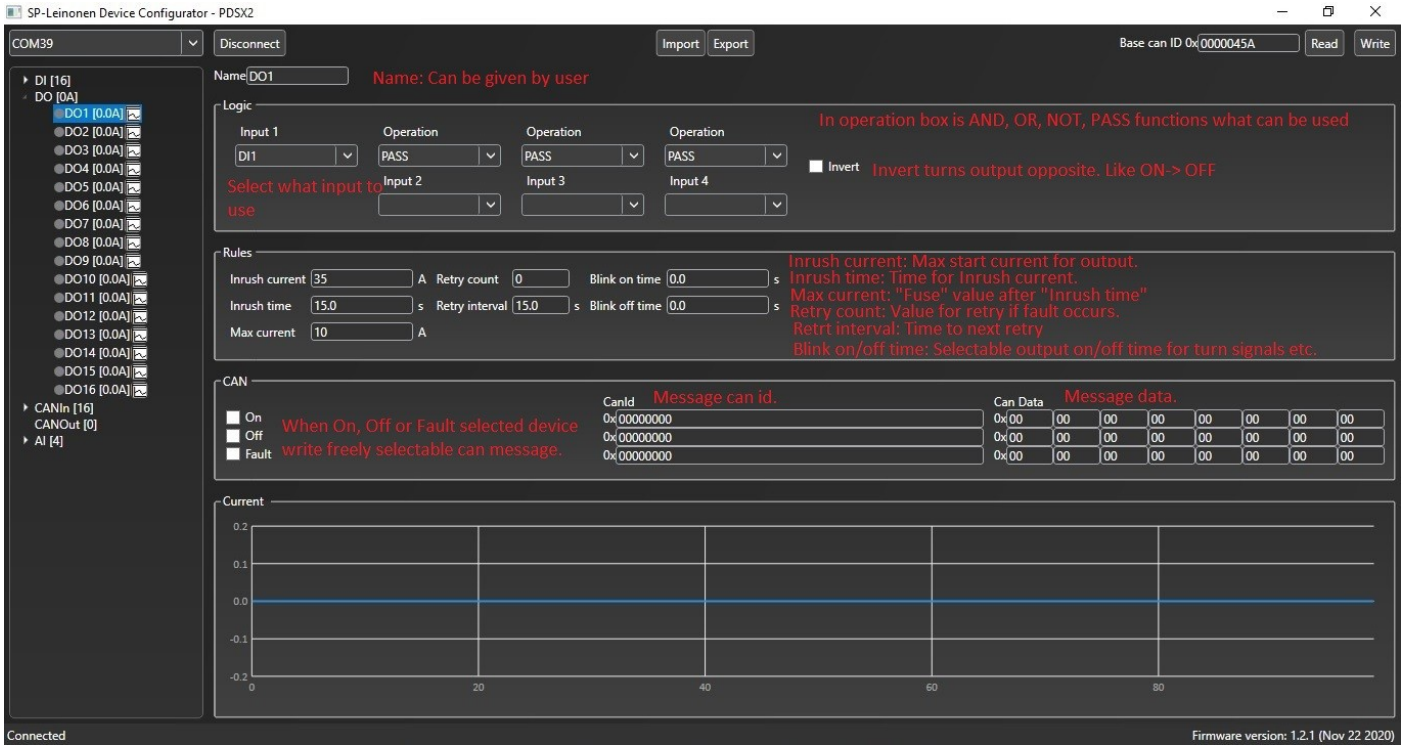
CAN INPUTS

It’s also possible to use CAN-Bus messages as switch, for example from CAN Pad. We recommend SP Leinonen CAN Pad to be used. Also, it’s possible to use CAN-Bus messages from another equipment, for example engine management systems



DIGITAL OUTPUTS

One pin can handle 10A of current. Outputs 6-10 can use two pins as output, so they can be used for 20A current output. Input 1 is the input that is used to drive the output. Different logics can be added to that. There is PASS, AND, OR and AND NOT Operations that can be used to combine different input switches for different kind of functions. Outputs can be named by user.



Rules can be set for output to make it function as it should.

Inrush Current: Is the current that the equipment connected to output takes when starting. For example fan can take a lot more current when starting compared to what it takes when running

Inrush Time: This is the time what the higher current consumption can be tolerated during startup of equipment.

Max Current: Maximum tolerable current during normal usage. So this is comparable to fuse size used.

Retry count: Value for retry if fault occurs

Retry Interval: Time how long the software will wait before retrying this output when fault occurs

Blink on/off: Selectable on/off times for output. For example indicator use.

CAN: Status of the output can be also writen to CAN-bus. So, for example you can use this function to show output status in CAN compatible display. For example warning lights.

Digital outputs can also show the current used by the output: