

CAN I/O 8/12 - 4/1

Operating Instruction isel - CAN - I/O - Modules

CAN I/O 16/16 CAN I/O 8/12 - 4/1 isel Germany AG, D-36124 Eichenzell, Bürgermeister-Ebert-Str. 40 🖀 (06659)981-0 🖨 (06659)981-776

About this manual:

The information, technical data and dimensions contained in this print are up-to-date when published. Any possible misprints and mistakes cannot be excluded however. We are thankful for any suggestion for improvement and indication of mistakes.

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1 Introduction

1.1 General function, benefit in application

The CAN-I/O-Module is an Input/output-module for peripheral automation by linking intelligent modules to the CAN bus (Controller Area Network).

Such modules are:

- Positioning modules for numerical axes, e.g. IMD10, IMD20, IMD40 or CPC12 interface from *isel* Germany AG
- HF-Inverter for working spindles
- I/O-Modules for binary (analog) input/output, e.g. CAN-I/O-Modules from *isel* Germany AG

All CAN-Modules are intelligent, that means they have at least one microprocessor with integrated on chip or separate CAN-Controller. The CAN-I/O-Modules follow the CANopen- Standard Device profile for I/O-Modules: CiA Draft Standard Proposal DS301 V4.0 und DS401 V2.0.

The **advantages** of using I/O-Modules with CAN interface are:

- The binary (analog) Inputs and Outputs are available close to the process sensors (inputs) as well as to the actuators (outputs). A costly, susceptible and EMC sensitive cabling to the (central) CNC-Controller (CNC-Master, CNC-Control) will be cancelled.
- Additional modules can be integrated and configured in a simply way:
 - 1. Plug node to CAN-Bus
 - 2. Set a new node address for the I/O module
 - 3. Assign the respective software driver (DLL) to the application software (ProNC or Remote)
- There are extensive diagnostic- and test-possibilities because every CAN-I/O-Module is intelligent. That means, that the modules are able to give status and error information to the CNC-Master (this is also the CAN Master) on demand.

1.2 Intended use

The CAN-I/O module is intended to be used as a peripheral Input / Output module and therewith to connect sensors and actuators from an industrial process to this module:

- binary or analog sensors
 (Ing
- binary or analog actuators

(Inputs) (Outputs)

1.3 Safety symbols



Danger

This symbol indicates dangers that cause damages for person's health, physical injury or death.



Attention

This Symbol indicates important notes. Ignoring this symbol leads to damages and malfunctions of the module.



Information

This symbol indicates important information and notes.

1.4 Safety guidelines



- The CAN-I/O-Modules 16/16 resp. 8/12-4/1 are designed due to current technical and recognized rules.
- Do not expose the device to high humidity or high vibrations.
- Admissible ambient temperature : +5°C bis +40°C
- Storage temperature : -25°C bis +70°C



- The device may only be used if it is in correct condition. Any faults have to be eliminated immediately. Neither children nor non-authorized persons are allowed to put the device into operation.
- The device may only be used for the intended use, i.e. I/O operations.
- All work on the module must be executed from authorized personal regarding electrical industry rules and accident prevention regulations.
- Assembly and use of operating material has to be according to the appointments of Machinery Directive 2006/42/EU resp. the Low Voltage Directive 2006/95/EU.

In case of improper, incorrect use even the compliance of the respective rules and standards does not protect against physical damages and damage to property.



- Please take care of the instruction manual. Be sure that all users know the instructions.
- Ignoring the instruction manual can lead to damage, heavy physical damage or to death.

2 Technical specifications

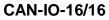
2.1 General, process - and logic power supply

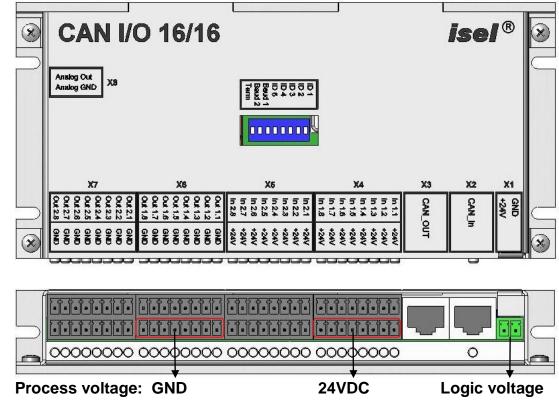
box size:	85mm (B) x 180mm (H) x 28mm (T)
weight:	260 g
safety class:	IP20
power supply 1: (logic voltage)	24VDC The logic voltage supplies the module internal logic like the CANopen microcontroller, DA and AD converters, optocouplers, relays and the CAN bus drivers. The logic voltage is feeded to the module via connector X1 from an external 24VDC power supply device.
power supply 2: (process voltage)	 24VDC The process voltage supplies sensors and actuators that are connected to the CAN-I/O module: binary process sensors like switches or inductive sensors binary process actuators like Ohm or inductive loads The process voltage is feeded to the module via connector X4 (+24V) resp. connector X6 (GND) from an external 24VDC power supply device.
power consumption 1: (from / over logic voltage)	160mA
power consumption 2: (from / over process voltage)	
	Power consumption (from / over process voltage) depends from the external loads, e.g. especially from the binary process actuators connected to the module.
	Dimensioning the 24VDC power supply device for process voltage with a sufficient value is very important. The customer is responsible to do this dimensioning correctly.
ambient temperature:	5°C bis +40°C
storage temperature:	-25°C bis +70°C
relative humidity:	max. 95%

CAN – I/O - 16/16	
digital inputs:	16 In1.1 to In1.8 and In2.1 to In2.8 using optocouplers (input current about 8mA)
digital outputs:	 16 Out1.1 to Out1.8 and Out2.1 to Out2.8 8 relay outputs Out1.1 to Out1.8, Imax < 5A 8 electronic outputs (switching transistors) Out2.1 to Out2.8, Imax < 350mA, switching delay about 100μs, thermic protection, short-circuit protection
catch diode for digital outputs	Each inductive load plugged to digital outputs requires a separate external catch diode.
analog output:	1 0V – 10V over 8 Bit D/A converter (if the analog output is used the eight electronic digital outputs Out2.1 to Out2.8 can not be used for binary output)
fuse:	630 mA / 250V fast

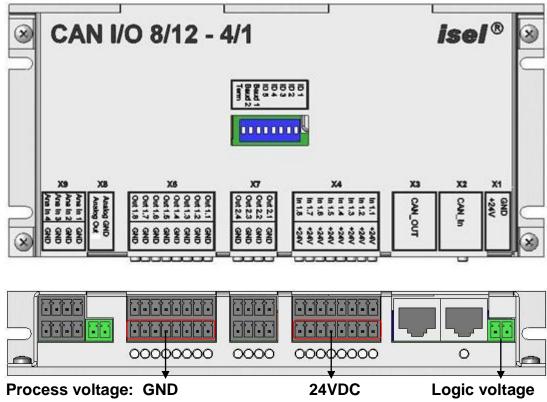
CAN – I/O - 8/12 - 4/1	
digital inputs:	8 In1.1 to In1.8 using optocouplers (input current about 8mA)
digital outputs:	 12 Out1.1 to Out1.8 and Out2.1 to Out2.4 4 relays outputs Out2.1 to Out2.4, Imax < 5A 8 electronic outputs (switching transistors) Out1.1 to Out1.8, Imax < 350mA, switching delay about 100µs, thermic protection, short-circuit protection
catch diode for digital outputs	Each inductive load plugged to digital outputs requires a separate external catch diode.
analog output:	1 0V – 10V over 8Bit D/A transformer
analog inputs:	4 Ana In1 bis Ana In4, 0V – 10V, 16 Bit resolution
fuse:	630mA / 250V fast

2.2 Module overview





CAN-IO-8/12-4/1



2.3 Plug allocation

Supply voltage (Logic voltage)

Phoenix Mini Combicon 2 pins

modul	connector	pin	signal	description
CAN-IO 16/16	X1	1	GND	supply voltage GND
CAN-IU TO/TO		2	+24V	supply voltage +24V
CAN-IO 8/12-4/1	O 8/12-4/1 X1	1	GND	supply voltage GND
CAN-10 0/12-4/1		2	+24V	supply voltage +24V

CAN In, CAN Out

RJ45 connector

modul	connector	pin	signal	description
		1	n.c.	not connected
		2	n.c.	not connected
		3	n.c.	not connected
CAN- IO 16/16	X2 CAN In	4	CAN_H	signal CAN high
CAN- 10 10/10	X3 CAN Out	5	CAN_L	signal CAN low
		6	CAN_GND	GND
		7	n.c.	not connected
		8	n.c.	not connected
		1	n.c.	not connected
		2	n.c.	not connected
		3	n.c.	not connected
CAN-IO 8/12-4/1	X2 CAN In	4	CAN_H	signal CAN high
CAN-10 0/12-4/1	X3 CAN Out	5	CAN_L	Signal CAN low
		6	CAN_GND	GND
		7	n.c.	not connected
		8	n.c.	not connected

Input ports

Phoenix Mini Combicon 8 x 2 pins

module	connector	pin bottom	signal	description
		1	+24V	
		2	+24V	
		2 3	+24V	
		4	+24V	
		5	+24V	
		6	+24V	
		7	+24V	
CAN- IO	X4 In 1	8	+24V	
16/16	and	pin top	signal	description
10/10	X5 ln 2	9	In 1	bit 0
		10	ln 2	bit 1
		11	In 3	bit 2
		12	In 4	bit 3
		13	In 5	bit 4
		14	In 6	bit 5
		15	ln 7	bit 6
		16	In 8	bit 7
		pin bottom	signal	description
		1	+24V	
		2 3	+24V	
		3	+24V	
		4	+24V	
		5	+24V	
		6	+24V	
		7	+24V	
CAN-IO	X4 In 1	8	+24V	
8/12-4/1		pin top	signal	description
		9	In 1	bit 0
		10	In 2	bit 1
		11	In 3	bit 2
		12	In 4	bit 3
		13	ln 5	bit 4
		14	In 6	bit 5
		15	ln 7	bit 6
		16	In 8	bit 7

Output ports

Phoenix Mini Combicon 8 x 2pol.

module	connector	pin bottom	signal	description
		1	GND	•
		2	GND	
		3	GND	
		4	GND	
		5	GND	
		6	GND	
		7	GND	
CAN- IO	X6 Out 1	8	GND	
16/16		pin top	signal	description
10/10	X7 Out 2	9	Out 1	bit 0
		10	Out 2	bit 1
		11	Out 3	bit 2
		12	Out 4	bit 3
		13	Out 5	bit 4
		14	Out 6	bit 5
		15	Out 7	bit 6
		16	Out 8	bit 7
	1	pin bottom		
		1	GND	
		2	GND	
		3	GND	
		4	GND	
		5	GND	
		6	GND	
		7	GND	
CAN-IO	X6 Out 1	8	GND	
8/12-4/1		pin top		
	X7 Out 2	9	Out 1	bit 0
		10	Out 2	bit 1
		11	Out 3	bit 2
		12	Out 4	bit 3
		13	Out 5	bit 4 (not on X7)
		14	Out 6	bit 5 (not on X7)
		15	Out 7	bit 6 (not on X7)
1	1	16	Out 8	bit 7 (not on X7)

Analog output

Phoenix Mini Combicon 2 pins

module	connector	pin	signal	description
CAN-IO	X8 AnaOut		analog Out GND	reference for analog output
16/16		2	analog Out	analog output (0 – 10V)
CAN-IO	X8 AnaOut	1	analog Out GND	reference for analog output
8/12-4/1		2	analog Out	analog output (0 – 10V)

Analog inputs

Phoenix Mini Combicon 2 pins

module	connector	pin bottom	signal	description
CAN- IO 16/16		-	-	-
		pin bottom	signal	description
		1	GND	reference for analog input 1
		2	GND	reference for analog input 2
		3	GND	reference for analog input 3
CAN-IO		4	GND	reference for analog input 4
8/12-4/1		pin top		
0/12-4/1		5	Analog In 1	analog input 1
		6	Analog In 2	analog input 2
		7	Analog In 3	analog input 3
		8	Analog In 4	analog input 4

2.4 DIP Switches

The node address of a CAN module is used to clearly identify the device on the CAN bus.

 \rightarrow

We submit the following assignment of the modules node address:

Module

- 1. positioning module
- 2. positioning module
- 3. positioning module
 - additional positioning module
- 4. I/O-module (firstt)
- 5. I/O-module (second) additional I/O-modules
- 6. HF- converter
 - additional HF-converter

- Node address
- Node address 1
- \rightarrow Node address 2
- \rightarrow Node address 3
- → Node address 4-9
- \rightarrow Node address 16
- \rightarrow Node address 17
- → Node address 18 and 19
- \rightarrow Node address 10
- → Node address 11,12 or 13

CAN Node address (S1 – S5)

The switches S1 - S5 are used to set the CAN node address. Possible values are 1 to 31.

Node address	S1	S2	S3	S4	S5
16	off	off	off	off	on
17	on	off	off	off	on
31	on	on	on	on	on

Baud rate (S6 – S7)

The switches S6 and S7 are used to set the baud rate.

Following values are possible:

Baud rate	S6	S7
1 MBit/s	off	off
500 kBit/s	on	off
125 kBit/s	off	on
20 kBit/s	on	on

Terminating resistor (S8)

Switch S8 is used to switch a CAN bus termination resistor on or off. If the switch is on a 120 Ω resistor is enabled.

2.5 Assembly, installation, connection

Be sure that the jumper settings are correct before you build in the CAN-I/O module into a Control cabinet or another device (refer to chapter 2.4).

2.5.1 Base connection (Logic voltage and CAN bus)

If you have configured the DIP switches the module can be built in to the intended mounting place.

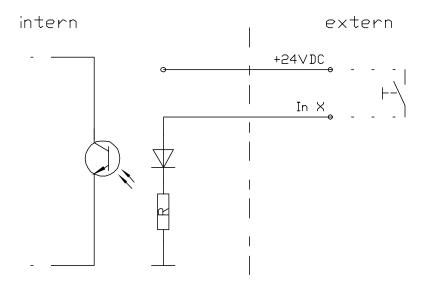
Now the 24V-power supply (logic voltage) must be connected with X1 (see connection assignment). Also the CAN- bus interface connection must be plugged in (CAN In must be connected)



If the CAN-I/O-module is the last device in the CAN-topology the DIP-switch 8 must be set to "on" to enable the terminating resistor.

2.5.2 Digital inputs

The digital inputs of the CAN-I/O-modules are realized using 24V-DC process voltage. They can be connected to process sensors as follows:

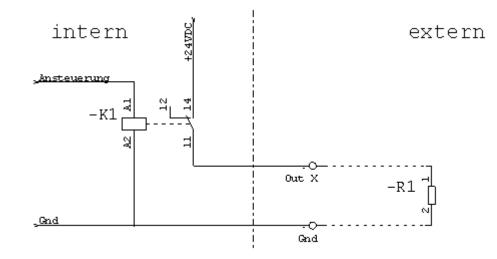


The reference potential (+24VDC, GND) for the external sensor (in the principle drawing a simple switch) is the process voltage.

The input load is about 8mA.

2.5.3 Digital outputs (relay outputs)

The digital relay outputs of the CAN-I/O-modules switch 24V-DC process voltage. Integrate the outputs as follows:



The reference potential (+24VDC, GND) for the external actuator (in the principle drawing a simple resistor) is the process voltage.

The relay outputs

- Out1.1 to Out1.8 at CAN-I/O-Module CAN-IO 16/16 = port1 (X6)
- Out2.1 to Out2.4 at CAN-I/O-Module CAN-IO 8/12-4/1 = port2 (X7)

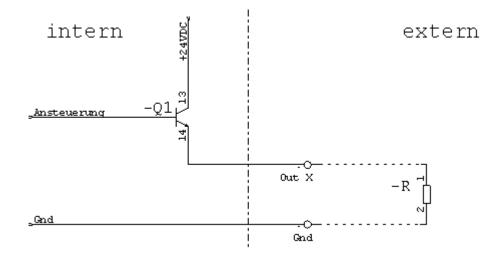
can be rated with 5A for each output.



Driving inductive loads on digital outputs (for example relays) put parallel to every load (relay) a catch diode (anode to GND).

2.5.4 Digital electronic outputs (switching transistors)

The digital electronic outputs (switching transistors, P channel, 24V switching) of the CAN-I/O-modules switch 24 VDC process voltage. Integrate the outputs as follows:



The reference potential (+24VDC, GND) for the external actuator (in the principle drawing a simple resistor) is the process voltage.

= port1 (X6)

The digital electronic outputs

- Out2.1 to Out2.8 at CAN-I/O-Module CAN-IO 16/16 = port2 (X7)
- Out1.1 to Out1.8 at CAN-I/O-Module CAN-IO 8/12-4/1

can be loaded with max. 350mA on each output.



IMPORTANT when using the CAN-I/O-Module **CAN-IO 16/16**, here obtains for digital electronic outputs Out2.1 bis Out2.8 = Port2 (X7):

If the integrated D/A converter is used for analog output then port2 is reserved. That means port2 is not longer available for digital outputs. To prevent confusions you can deactivate port2 by removing Jumper1 (refer the next chapter **Analog output**). Through this the port2 LEDs are also deactivated.



Driving inductive loads on digital outputs (for example relays) put parallel to every load (relay) a catch diode (anode to GND).

2.5.5 Analog output

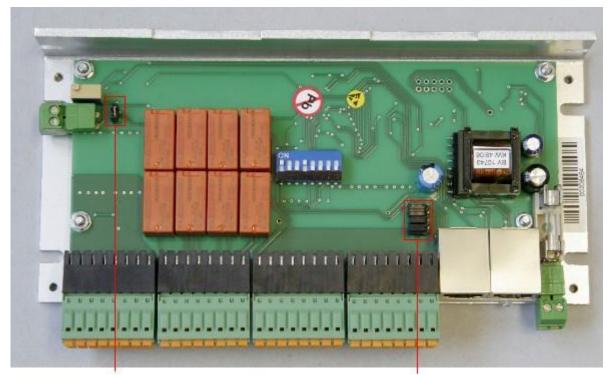
You can use this output for controlling an external device with 0 to 10V interface / input (e.g. the target velocity for HF converter).

If the analog output ist used, port2 is no longer available for digital outputs.



Output current not more than 15mA!

CAN-I/O 16/16 Jumper settings



Jumper 1 plugged:

- if the analog output is in use the LEDs from output Port A2 signalize the binary analog output value.

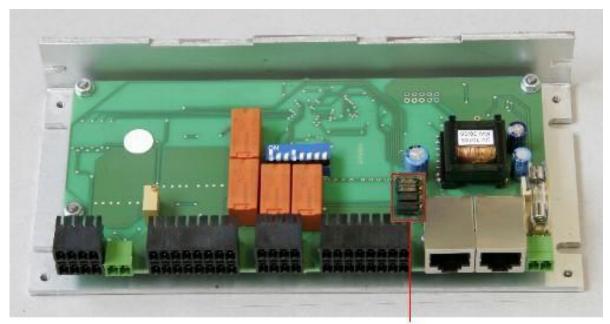
Delivery state: Jumper 2 (4 pieces) not plugged. Galvanic separation the 24DCV process voltage from 24VDC logic voltage is guaranteed.



If you plug the jumpers 2 then there is no galvanic separation between 24VDC process voltage and 24VDC logic voltage!

This may be effects damages on the CAN-I/O-Module.

CAN-I/O 8/12 - 4/1 Jumper settings



Delivery state:Jumper 1 (4 pieces)Jumper 1 is not plugged. Galvanic separation the 24VDC process voltage from24VDC logic voltage is guaranteed.

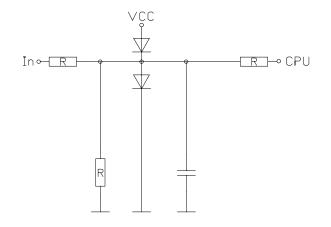


If you plug the jumper 1 then there is no galvanic separation between 24VDC process voltage and 24VDC logic voltage!

This may be effects damages on the CAN-I/O-Module

2.5.6 Analog input

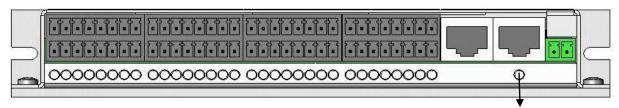
The module CAN-I/O-8/12-4/1 has 4 analog Inputs with an input voltage range from 0V to10V and a resolution of 16 Bit. On these inputs you can directly connect e.g. sensors. These inputs have an input impedance of $2k\Omega$ and provides an internal RC filter.



2.5.7 Diagnosis, signalization, fault states

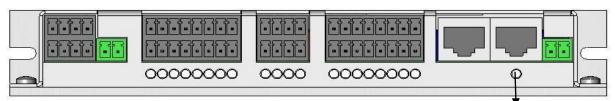
Diagnosis of the CAN-I/O modules is possible by observing the status LED.

CAN-IO-16/16



CAN-IO-8/12-4/1

Status-LED



Status-LED

This LED signals 4 different states:

LED duty cycle	State
0%, off	Error: CAN I/O module is not in operational state,
	logic voltage is not available or the internal power
	supply (DC/DC: 24 VDC to 5,0 V) is damaged
10%	No error \rightarrow normal operation
50%	Uncritical error or warning
90%	Critical error (NMT error, output error)

3 Integration into the control software (ProNC, Remote)

3.1 Settings in the module management

At first the Interface-DLL which opens the connection between ProNC/Remote and CAN-IO-Device must be set-up.

If not already available, copy the files

and

loCan.INI

into a new sub-directory of the CNCworkbench - directory.

Our suggestion for the new directory:

{ProgramPath}\CNCWorkbench\Control\Can\

After the files are copied the application must get to know the new IO-device-Therefore start ProNC/Remote and open the Setup-dialog for the control with the help of the command "Setup – Control...". The following dialog will be appear:

Control modules and settings	X
Motion control modules Spindle drives Spindle drives Omodules Omodule 1 Solution Omodule 2 Solution Tool administration Security installations Other components	Configuration preset
	Close Close & Initialize

Follow the commands to get the USB-IO device into the modul management:

- Choose in the tree view the IO-Modul which is not in use and name it e.g"CAN-IO-16/16 Node address is 16" or only "CAN IO".
- Click on ">>" next to the Edit field "Modul DLL". Choose the "loCan.DLL" in the "\CNCWorkbench\Control\Can" directory. The Edit field "Modul initialisation file" shows automatically the "CNCWorkbench\Control\Can\loCan.INI" file. You don't need to rename the file.
- Click on button ______ (in case nothing will happen, choose another IO-Modul from the tree view and after that choose the IO-Modul for the CAN-IO).

n <u>setup</u> to oper	h the Setup dialog
n to oper	n the Setup dialog

nitialization values for the CAN-I/O module				
Node address (Node-ID) of the module: 16 decimal				
What is "initialization value" ? The item "initialization value" means a default output value that is written to an output p in certain situations (e.g. abort the application program or EMERGENCY STOP).	port			
Initialization values for output port A1 and A2 on this module:	1			
Output port A1 enfolds outputs A1.8 to A1.1 0 0 0 0 0 0 0	0			
Output port A2 enfolds outputs A2.8 to A2.1 0 0 0 0 0 0 0	0			
Hint: Valid values for each output A1.1 to A2.8 are 1, 0 or X 1: set output 0: reset output X: output keeps unchanged				
- Initialization values A3, A4, A5 and A6 (for future extensions): Initialization value A3: 0 decimal Initialization value A5: 0 deci	mal			
Initialization value A4: 0 decimal Initialization value A6: 0 deci				
Initialization value for analog output and and PWM signal:				
Analog output (+/-10 V): 0 mV PWM signal (0 1000): 0 per r	nille			
isel-CAN-I/O Module 16/16 ▼ Use binary Output port A2 as Analog Channel				
Hint: When activating this option the Output port A2 is not available for binary output ! Using this option does not presume any changes according jumper settings inside the CAN-1/O module !				

this dialog u can set ferent ttings for the odule. The ost important tting are the de address the module. ne default lue for the dress is 16. urthermore u can set tialization lues for gital and alog output rts. If you art the ftware roNC / emote) these lues will be et.

3.2 Settings within the Contro administration

To get access to the IO-module within the Control administration one setting in the top level must be changed. Open the "Extended settings-IO" - Dialog as follows.

Highlight in the tree structure "IO modules". Click on Extended settings on the right side. You can see the following dialog:

Logical port	Assigned IO module	🛛 🗸 Local po 🛱 Lock	
		1	
Input port 1	CAN-IO-16/16 Node address is 16 CAN-IO-16/16 Node address is 16	2	
Input port 2	CAN-IO-16/16 Node address is 16 CAN-IO-8/12-4/1 Node address is 17	1	
Input port 3	CAN-IU-8/12-4/1 Node address is 17	1	
Input port 4			
Input port 5 ↓ Input port 6			
Input port 6	N		
Input port 8	\sim		
Cutput port 1	CAN-ID-16/16 Node address is 16	1	
	CAN-IO-16/16 Node address is 16	2	
Cutput port 3	CAN-ID-8/12-4/1 Node address is 17	1	
Cutput port 4	CAN-ID-8/12-4/1 Node address is 17	2	
Cutput port 7			
Cutput port 8			
Analog input 1	CAN-IO-8/12-4/1 Node address is 17	1	1
<	Ш		>
Entry	Properties		
Endy			

The IO-module " CAN-IO-16/16 Node address is 16" needs a logical Input / Output port number to access the Input / Output-functions from the CNC control software ProNC resp. Remote.

Mind the following notes:

- Highlight a free logical port, for example: Input port 1

Choose in the button	band						
Logical port	🗸 🗸 Assigned IO module		Local po	- 🖰	Lock		
the button "▼Assign	ed IO module" by mouse click, then	the	element				
"[1] CAN IO 16/16 No	ode address is 16":						
Logical port	🛛 🗹 Assigned 10 module		Local po	- 🖰	Lock		^
🛄 🗘 Input port 1	[1] CAN-IO-16/16 Node address is 16		1				
nput port 2	[2] CAN-IO-8/12-4/1 Node address is 17	7					
hput port 3							
C Input port 4							
Input port 5			J				≡
Input port 6							
C Input port 7							
Contract Provide America Contract Contr							
Cutput port 1	CAN-IO-16/16 Node address is 16	1					
Cutput port 2	CAN-IO-16/16 Node address is 16	2					
Cutput port 3	CAN-IO-8/12-4/1 Node address is 17	1					
Cutput port 4	CAN-IO-8/12-4/1 Node address is 17	2					
Cutput port 5							
Cutput port 6							
🔁 🗘 Output port 7							
🔀 🗘 Output port 8							_
Analog input 1	CAN-IO-8/12-4/1 Node address is 17	1				_	*
<	1111					>	

• Choose in the button band

Logical port 🛛 💎 Assigned IO module 👘 🗸 Local port in module 👘 🔒 Lock

the button "▼ Local port in module" by mouse click, then the element "Local Port 1":

Logical port	🗸 🗸 Assigned 10 module	🛛 🔍 Local port in module	🕆 Lock
🔤 🗢 Input port 1	CAN-IO-16/16 Node address is 16	Local port 1 N	
💼 🗘 Input port 2	CAN-IO-16/16 Node address is 16	Local port 1	
🔁 🗘 Input port 3	CAN-IO-8/12-4/1 Node address is 17	Local port 3	
💼 🗘 Input port 4			
🚾 🗘 Input port 5		Local port 4	
💼 🗘 Input port 6		Local port 5	
💼 🗘 Input port 7		Local port 6	
💼 🗘 Input port 8		Local port 7	
😤 🗘 Output port 1 👘	CAN-IO-16/16 Node address is 16	Local port 8	
🚟 🗘 Output port 2 👘	CAN-IO-16/16 Node address is 16		
😷 🗘 Output port 3 👘	CAN-IO-8/12-4/1 Node address is 17	1	
🕰 🗘 Output port 4 👘	CAN-IO-8/12-4/1 Node address is 17	2	
😷 🗘 Output port 5 👘			
😷 🗘 Output port 6			
😷 🗘 Output port 7			
😷 🗘 Output port 8			
Analog input 1	CAN-IO-8/12-4/1 Node address is 17	1	

Click on "OK" to close the dialog

Now you must do the described steps for all logical output ports, analog output and analog input. You find these entries by scrolling down in the list field.

Close the dialog "Control modules and settings" over the button "Close & Initialize" to reinitialize the new modules.

The following lines show the use of local input ports, output ports, analog output and analog input of the different modules.

CAN- IO- 16/16

Local input ports:Port 1 and Port 2Local output ports:Port 1 and Port 2

Local analog output: Port 1 (alternatively with the local output port Port 2)



If the analog output is used, Port 2 (X7) is no longer available for digital outputs. You must clear the entry for this port in the list.

CAN- IO- 8/12- 4/1	
Local input ports:	Port 1
Local output ports:	Port 1 and Port 2

Local analog output:	Port 1
Local analog inputs:	Port 1 - Port 4



At the local output port 2 you can only use the outputs 1-4:

A2.1	= Out 2.1
A2.2	= Out 2.2
A2.3	= Out 2.3
A2.4	= Out 2.4

3.3 Version information

Version / Information	on about loCan.dll 🛛 🔀
File: Version: Information:	Input Output CAN Dynamic Link Library: IoCan.dll 1.46.6.12 12/12/2012 DLL for Communication with I/O devices via CAN bus due to Standard CANopen CiA DS 301 and DS 401
	Copyright © 2001-2012, isel Germany AG. All rights reserved.
Nodeaddress (Node-ID):	16
Functionality:	CAN-I/O 16/16: digital in, digital out, analog out alternative with digital output port 2
Device descriptor:	C04011B
Hardware version:	H1.00S1.41-R
Software version:	1.41-B
	ОК

Inside the module management you can show version information of the used module DLL and the connected device type by pressing the button

3.4 Diagnosis function

The button Diagnosis allows you to access input / output functions of the connected CAN-I/O-module. In this dialog you can e.g. switch outputs separately or you can check the state of inputs.

Diagnosis for the CAN-I/O modu	ıle: Set / Rese	t binary outputs /	Ax.1 🔀
Input ports In1/In2:	Select: -	Output ports Out1/Out2:	
	Test	8 7 6 5	4 3 2 1
	Out1 Out1 Out2		
	C Out2		
_ Input ports In3/In4:		Output ports Out3/Out4:	
8 7 6 5 4 3 2 1	Test	8765	4 3 2 1
	A3 C Out3		
Input ports In5/In6:		- Output ports Out5/Out6: 8 7 6 5	4 3 2 1
	Test Cours		
	A5 A6		
	C Out6		
CAN-I/O-Module 8/12-4/1 with 4 analog Inputs 010V	CAN-1/C		
Analog In 1 0 mV Analog In 2 0	mV [1	<u> </u>
			, 0 mV
Analog In 3 0 mV Analog In 4 0	mV _		
Refresh inputs: 🗌 Cyclic 📃 Once	Refresh o	utputs: 🔲 Cyclic	Once
Hint: Activate control button [] Cyclic to read and refresh inputs continuously		Hint: Activate control button [] C outputs continuously	
☐ Information about the current CAN interface:			
VERSION SETUP	DIAGNOSIS	STATUS	Quit

3.5 Status information

Using the button _________ you can check whether the process voltage is connected to the CAN I/O module.

CAN-1/D module has node address (Node-ID): 16 decimal	24V Logi Voltage
Hardware error: No communication with CANH/O module	9
Hint: Communication between CAN-CNC control and CAN-1/0 module is signaled at the front of CAN-1/0 module by a blinking diagnosis LED. Check the correct setting of node address (Node-1D) by DIP switch at the CAN-1/0 module.	ise is the second secon
☐ No 24V Process Power connected or external load too high, check wiring and / or load	CAN_OUT
Process Voltage connected	16 Set 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Hint: Lacking 24V Process Voltage results in the following effect: Although relays are switching as result of setting the related outputs (manually or by application program) there is no 24V potential available to switch the external load(s).	CAN NO 1616
Hint: Check the correct wiring of 24V Process Voltage to the CAN-I/O module and possible overload. Consult the Operating manual for CAN-I/O module on your Installation-CD.	24V Process Vottage
Read Operating manual for CAN-I/O module	
ΟΚ	



If there is no process voltage connected to the CAN I/O module you can not measure 24VDC potential between the load connectors X4 (24VDC) and X6 (GND).

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