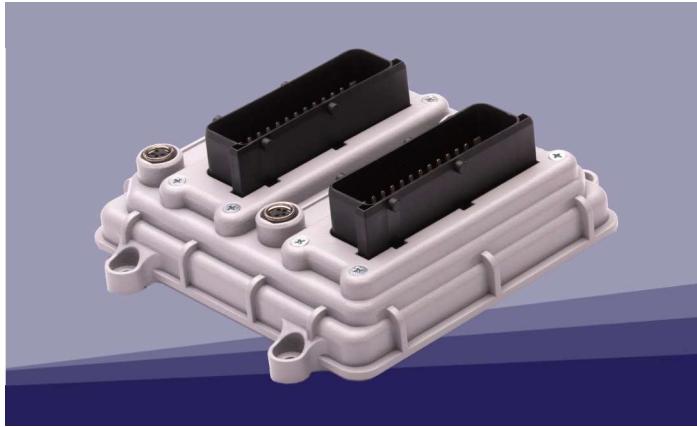


iblos-IMPact-04

ECU for 56 I/Os with terminal level and PVE control

IBL·HYDRONIC

... the solution provider



robust · easy-to-use · flexible

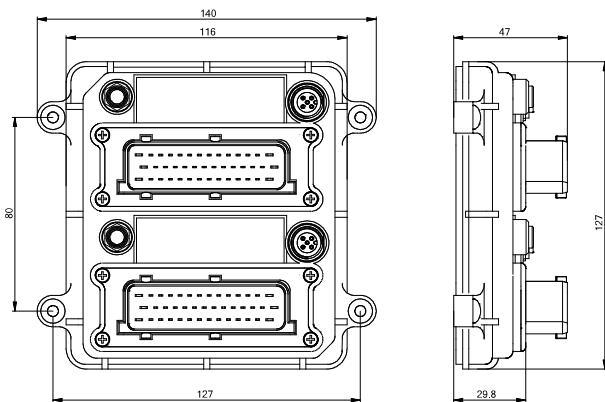
ECU for use in vehicles, construction machines, agricultural and forestry machines, municipal devices and mobile specialized machines. Most suitable for controlling hydraulic control blocks, pumps and motors or as a CAN-I/O module. Remarkably versatile features. Choice of modular components and their features enables optimal I/O profile adjustment for individual requirements.

CONFIGURATION

	max available
Analog Inputs	28
Digital Inputs	36
Frequenzy Inputs	4
For-/Backward counter	4
current controlled PWM-Outputs	16
Digital Outputs	36
Frequenzy Outputs	2
Analog Outputs/PVE	16
Analog-/emergency Inputs PVE	16
Digitalaugänge 1,2A	32
Digital Outputs/Dump-Valve 5A	2

*) 8 independent channels for 2 solenoids A + B each

DIMENSIONS



Equipment

- 36 inputs
- 18 power outputs
- 16 analog outputs / PVE controlling channels
- 12-bit analog inputs
- 12-bit real-time current-controlled PWM outputs
- 5V reference voltage, VDD and 0V on terminal level for sensors and actuators
- software for crane applications iblos-Soft-Crane-Control
- freely programmable

Communication

- 1 CAN-network
- CAN-protocol Danfoss CIP-Modul
- CANopen based PDO-communication
- SAE J1939
- free-CAN

Protection features

- excess voltage and short circuit protected, cable break monitoring
- voltage-proof in 12 and 24 VDC vehicular electrical systems
- EMC according to mobile machine norms
- external hardware watchdog

Connection

- Multi-I/O Connector
- M12-Connector for CAN und electronics supply

Housing

- additive in-house production
- standard and application-specific housings
- IP67, fully cast
- customized coloring



Programming

- freely programmable in C
- Softwaretools for Applications
- Softwareupdate via M8 programming socket or CAN

Parametrization and diagnostics tool

- iblos-CAN-master-pro
- iblos-CLOUD-master

iblos-Soft-Crane-Control

- dynamic deceleration and acceleration
- smooth, jerk-free motions
- no delays, no trailing
- especially for cranes and boom systems

MODUL CONFIGURATION

	max available
IMPact-02	2
IMPact-03	2
IMPact-05	2

OPTION**enable signal**

shutdown of all outputs via relay

Digital Output

7A, protected against short circuit, idle running, reverse polarity, overcurrent, overvoltage and excess temperature, suitable for inductive load, diagnostics feature

Analog Output

max. 4 x Analog Output 0...Vdd, useable for Danfoss-PVE *)

Frequenzy Output

max. 4 x Frequenzy Output, 100mA *)

Electrical drive

H-bridge for DC-motors, on/off or proportional, 3A (7A)

CAN

1 CAN-network, 2 M12 sockets

2 separate CAN-networks, 2 M12 sockets

*) for IMPact-02 available

TECHNICAL PROPERTIES**Electrical Connection**

- power supply 12/24 VDC (9 to 32 VDC)
- load dump protection, suitable for vehicular electrical systems
- voltage internally monitored
- supply output: external quick-acting fuse 10A, per PIN

Housing

- PA12, IP67, cast
- installation screw flange

Central pin

- locking pin, 42-pin, AMP-junior power timer, pin with single-wire sealing

Programming interface

- C2/JTAG M8, 4polig oder
- CAN

Ambient temperature

-40° C ... +80° C

Mechanical strength

- Vibrations DIN IEC 68-2-6/mobile devices
- Continuous shock DIN IEC 68-2- 29/Eb 250-6-1000/1 (25g)
- Shock DIN IEC 68-2-27 / Ea 500-6-18/4 (50g)

EMC-Norms

- agricultural machines DIN EN ISO 14982: 2009
- construction machines DIN EN 13766-1/2: 2018-12
- interferences on the line ISO 7637: 2009
- load dump ISO 16750-2: 2012-11-01

Data interfaces

1xCAN-network 2.0 A/B

Watchdog

external hardware-Watchdog

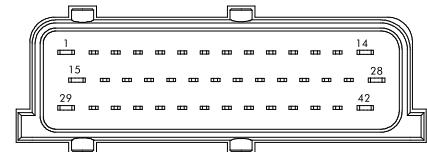
Software

- freely programmable in C
- ePTS-softwaretools for applications
- standard software for crane applications

PIN ASSIGNMENT IMPact-02

I/O-centralpin

I/O-Central	Pin	Description
	1	GND
	14	GND
	15	VREF 5V reference supply
	28	GNDA 0V analog signals
	29	VBB supply outputs
	42	VBB supply outputs
	2	OUT1A+ PWM -Output 1A+ / Digital-Output 1
	16	OUT1B+ PWM -Output 1B+ / Digital-Output 2
	4	OUT2A+ PWM -Output 2A+ / Digital-Output 3
	18	OUT2B+ PWM -Output 2B+ / Digital-Output 4
	11	OUT3A+ PWM -Output 3A+ / Digital-Output 5
	25	OUT3B+ PWM -Output 3B+ / Digital-Output 6
	13	OUT4A+ PWM -Output 4A+ / Digital-Output 7
	27	OUT4B+ PWM -Output 4B+ / Digital-Output 8
	30	OUT1A- PWM -Output 1A-
	31	OUT1B- PWM -Output 1B-
	32	OUT2A- PWM -Output 2A-
	33	OUT2B- PWM -Output 2B-
	38	OUT3A- PWM -Output 3A-
	39	OUT3B- PWM -Output 3B-
	40	OUT4A- PWM -Output 4A-
	41	OUT4B- PWM -Output 4B-
	3	A/DIN1 Analog-/Digital-Input 1/ 0-20mA/Analogoutput PVE
	17	A/DIN2 Analog-/Digital-Input 2/ 0-20mA/Analogoutput PVE
	5	A/DIN3 Analog-/Digital-Input 3/Analogoutput PVE
	19	A/DIN4 Analog-/Digital-Input 4/ 0-20mA/Analogoutput PVE
	6	A/DIN5 Analog-/Digital-Input 5/ current source 20mA
	20	A/DIN6 Analog-/Digital-Input 6/ current source 20mA
	9	A/DIN7 Analog-/Digital-Input 7/ current source 20mA
	23	A/DIN8 Analog-/Digital-Input 8/ current source 20mA
	10	A/DIN9 Analog-/Digital-Input 9
	24	A/DIN10 Analog-/Digital-Input 10/ 0-20mA
	12	A/DIN11 Analog-/Digital-Input 11/ Counter 2 backward
	26	A/DIN12 Analog-/Digital-Input 12/ Counter 2 forward/ 0-20mA
	7	A/DIN13 Analog-/Digital-Input 13/ Counter 1 backward
	21	A/DIN14 Analog-/Digital-Input 14/ Counter 1forward
	8	DOUT19 Digital-Output 19
	22	DOUT20 Digital-/Frequenz-Output 20
	34	DigIn17 Digital-Input17/ 0V/ 12V-24V
	35	DigIn18 Digital-Input18/ 0V/ 12V-24V
	36	DigIn19 Digital-Input19/ 0V/ 12V-24V
	37	DigIn20 Digital-Input20/ 0V/ 12V-24V



IMPact-02

CAN/Electronic

CAN	1	Vdd	option enable
Electronic	2	12/24V	electronic supply
	3	GND	0V electronic
	4	CAN-H	CAN-high
	5	CAN-L	CAN-low

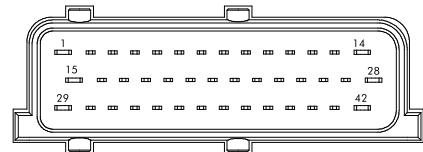
120 Ohm termination



STECKERBELEGUNG IMPact-03

I/O-Zentralstecker

I/O-Zentral- stecker	1	GND	0V Ausgänge	
	14	GND	0V Ausgänge	
	15	VREF	5V Referenzspannung	
	28	GNDA	0V Analogmasse	
	29	VBB	Versorgung Ausgänge	
	42	VBB	Versorgung Ausgänge	
	2	OUT1A+	PWM _i -Ausgang 1A+ / Digital-Ausgang 1	
	16	OUT1B+	PWM _i -Ausgang 1B+ / Digital-Ausgang 2	
	4	OUT2A+	PWM _i -Ausgang 2A+ / Digital-Ausgang 3	
	18	OUT2B+	PWM _i -Ausgang 2B+ / Digital-Ausgang 4	
	11	OUT3A+	PWM _i -Ausgang 3A+ / Digital-Ausgang 5	
	25	OUT3B+	PWM _i -Ausgang 3B+ / Digital-Ausgang 6	
	13	OUT4A+	PWM _i -Ausgang 4A+ / Digital-Ausgang 7	
	27	OUT4B+	PWM _i -Ausgang 4B+ / Digital-Ausgang 8	
	30	OUT1A-	PWM _i -Ausgang 1A-	
	31	OUT1B-	PWM _i -Ausgang 1B-	
	32	OUT2A-	PWM _i -Ausgang 2A-	
	33	OUT2B-	PWM _i -Ausgang 2B-	
	38	OUT3A-	PWM _i -Ausgang 3A-	
	39	OUT3B-	PWM _i -Ausgang 3B-	
	40	OUT4A-	PWM _i -Ausgang 4A-	
	41	OUT4B-	PWM _i -Ausgang 4B-	
	3	DOUT9	Digital-Ausgang 9	
	17	DOUT10	Digital-Ausgang 10	
	5	DOUT11	Digital-Ausgang 11	
	19	DOUT12	Digital-Ausgang 12	
	6	A/DIN5	Analog-/Digital-Eingang 5/ 0V/ Stromquelle 20mA	
	20	A/DIN6	Analog-/Digital-Eingang 6/ 0V/ Stromquelle 20mA	
	9	A/DIN7	Analog-/Digital-Eingang 7/ 0V/ Stromquelle 20mA	
	23	A/DIN8	Analog-/Digital-Eingang 8/ 0V/ Stromquelle 20mA	
	10	DOUT13	Digital-Ausgang 13	
	24	DOUT14	Digital-Ausgang 14	
	12	A/DIN11	Analog-/Digital-Eingang 11/ Counter 2 vorwärts	
	26	A/DIN12	Analog-/Digital-Eingang 12/ Counter 1 vorwärts/ 0-20mA	
	7	DOUT17	Digital-Ausgang 17	
	21	DOUT18	Digital-Ausgang 18	
	8	DOUT19	Digital-Ausgang 19	
	22	DOUT20	Dig-/Freq.-Ausgang 20	
	34	Digin17	Digital-Eingang17/ 0V/ 12V-24V	
	35	Digin18	Digital-Eingang18/ 0V/ 12V-24V	
	36	Digin19	Digital-Eingang19/ 0V/ 12V-24V	
	37	Digin20	Digital-Eingang20/ 0V/ 12V-24V	



IMPact-03

CAN/Elektronik

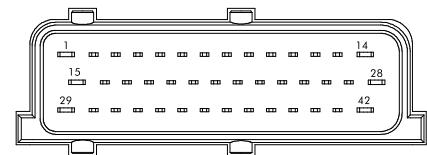
CAN Elektronik	1		intern reserviert	
	2	12/24V	Betriebsspannung Elektronik	
	3	GND	0V Elektronik	
	4	CAN-H	CAN-high	120 Ohm
	5	CAN-L	CAN-low	Abschlusswidder



PIN-ASSIGNMENT IMPact-05

Central-Pin	Pin	Description
	1	PVPX out Digitaloutput 17 to max. 5A
	2	CAN + CAN high
	3	CAN + CAN high
	4	Aln1 Analoginput 1
	5	Aln2 Analoginput 2
	6	GND 0V
	7	Aln3 Analoginput 3
	8	Aln4 Analoginput 4
	9	Aln5 Analoginput 5
	10	GND 0V
	11	Aln6 Analoginput 6
	12	Aln7 Analoginput 7
	13	Aln8 Analoginput 8
	14	GND 0V
	15	Udc supply voltage
	16	CAN term CAN termination > bridge to Pin 3
	17	GND 0V
	18	PVE1_A# Analog-output / Digitaloutput 1 to max. 1,2A
	19	PVE2_A# Analog-output / Digitaloutput 2 to max. 1,2A
	20	PVE3_A# Analog-output / Digitaloutput 3 to max. 1,2A
	21	GND 0V
	22	PVE4_A# Analog-output / Digitaloutput 4 to max. 1,2A
	23	PVE5_A# Analog-output / Digitaloutput 5 to max. 1,2A
	24	PVE6_A# Analog-output / Digitaloutput 6 to max. 1,2A
	25	GND 0V
	26	PVE7_A# Analog-output / Digitaloutput 7 to max. 1,2A
	27	PVE8_A# Analog-output / Digitaloutput 8 to max. 1,2A
	28	GND 0V
	29	Udc supply voltage
	30	CAN - CAN low
	31	CAN - CAN low
	32	PVE1_B# Digitaloutput 9 to max. 1,2A
	33	PVE2_B# Digitaloutput 10 to max. 1,2A
	34	PVE3_B# Digitaloutput 11 to max. 1,2A
	35	GND 0V
	36	PVE4_B# Digitaloutput 12 to max. 1,2A
	37	PVE5_B# Digitaloutput 13 to max. 1,2A
	38	PVE6_B# Digitaloutput 14 to max. 1,2A
	39	GND 0V
	40	PVE7_B# Digitaloutput 15 to max. 1,2A
	41	PVE8_B# Digitaloutput 16 to max. 1,2A
	42	GND 0V

Stecker 3 (PG-Schnittstelle)	1	C2D C2-Data (bn)
	2	C2CK C2-Clock (wh)
	3	GND 0V (bl)
	4	DE 0V – Programdownload enable (bk)

**IMImpact-05**