ENGINEERING TOMORROW

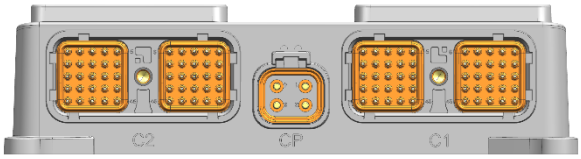
Data sheet

XL Controller Platform

100+4 pin Full Configuration

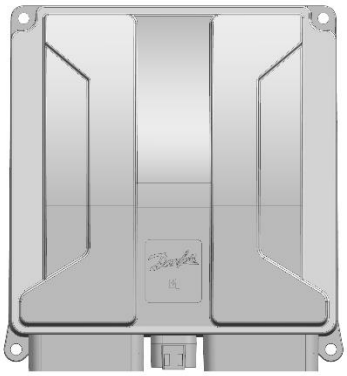
Flexible Machine Management

The XL controller platform provides a solid and powerful background to meet requirements for managing mobile machinery. The modular concept of the XL controller gives you the flexibility meeting a big range of different needs with the same product. The high pin count makes it possible to let this solution fit to control even your most complex machines.



Product Highlights

The XL controller is a power house employing a 32bit Processor, providing the controller with extremely fast single cycle processing speed and 2.5 MB of internal flash. The architecture of the XL controller platform furthermore gives you the opportunity to comply with current functional safety standards.



Application Development

Users develop applications with PLUS+1® GUIDE and C Open. The PLUS+1® GUIDE is a Microsoft® Windows® based development environment and features a user-friendly, field proven, icon-based graphical programming tool, application downloader, and service/diagnostic tool.

Features

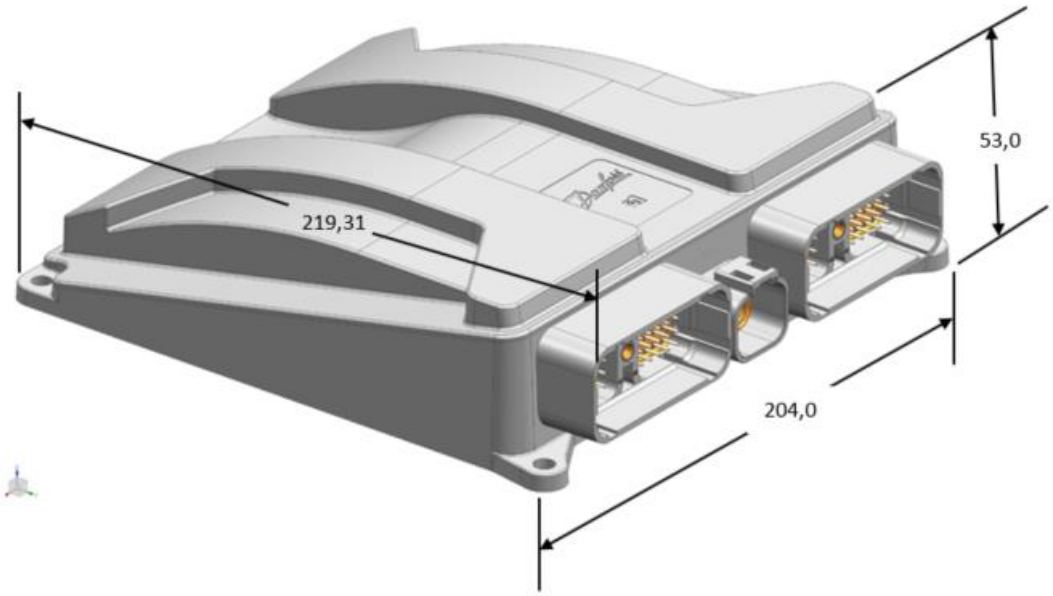
- User-programmed with PLUS+1 and C Open
- 4 pin Deutsch DTP connector for power and ground
- 2 x 50 pin Deutsch DRC connectors
- Processor: AURIX 32 bit running at 200 MHz
  2.5 MB flash, 240kB RAM, Lock Step Core
- EEPROM non-volatile memory
- 12 bit analog-to-digital converter
- 7 to 36 Vdc power supply, monitored internally
- 2 user-defined 3 to 12 Vdc regulated power supply for external sensors
- 3 CAN 2.0 B ports, each with a fixed range analog input
- SIL2 compliant (Performance levels of I/O's TBD)

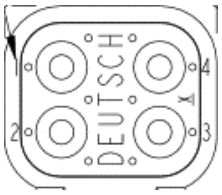
48 Inputs

- 20 digital (DIN) configurable as pull up (5 Vdc) or pull down (0 Vdc)
- 4 universal (DIN/AIN/FreqIn) that are user-defined as either:
  - *Analog*: with configurable ranges 0 to 5.25 Vdc (with over range protection) or 0 to 36 Vdc;
  - *Digital*: pull up (5 Vdc), pull down (0 Vdc), or pull to center (2.5 Vdc);
  - *Frequency*: (timing) 1 Hz to 10 kHz
- 4 universal (DIN/AIN/FreqIn/Rheo/4-20mA) that are user-defined as either:
  - *Analog*: with configurable ranges 0 to 5.25 Vdc (with over range protection) or 0 to 36 Vdc;
  - *Digital*: pull up (5 Vdc), pull down (0 Vdc), or pull to center (2.5 Vdc);
  - *Frequency*: (timing) 1 Hz to 10 kHz
  - *Rheostat*: (Resistance) from 0 to 1000 Ohm
  - *Current*: 4 to 20 mA
- 17 digital/analog (DIN/AIN) that are user-defined as either:
  - *Digital*: pull up (5 Vdc), pull down (0 Vdc), or pull to center (2.5 Vdc);
  - *Analog*: 0 to 5.25 Vdc or 0 to 36 Vdc
- 3 fixed range analog (AIN/CAN shield) 0 to 5.25 Vdc or CAN shield pin

40 Outputs

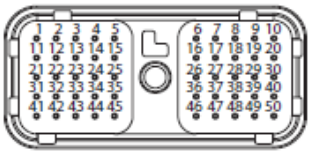
- 14 digital (DOUT) 3 A (source only)
- 6 digital (DOUT) 4 A (source only)
- 20 universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:
  - *Digital*: (3 A), configurable as source or sink;
  - *PWM*: (30 to 4000 Hz) configurable as open or closed loop with current control
  - *Analog voltage*: open loop PWM to 4000 Hz





C2 Deutsch DTP series

Pin	Function
1	Power ground -
2	Power supply +
3	Power supply +
4	Power supply +



Deutsch DRC23-50SA

Connector 1

Pin	Controller function	Pin	Controller function
C1-P1	CPU ground -	C1-P26	DIN/AIN
C1-P2	CPU supply +	C1-P27	DIN/AIN
C1-P3	CAN 0+	C1-P28	DIN/AIN
C1-P4	CAN 0-	C1-P29	DIN/AIN
C1-P5	CAN 0 shield/AIN	C1-P30	DIN/AIN
C1-P6	DIN/AIN	C1-P31	PWM/DOUT/PVGOUT
C1-P7	DIN/AIN	C1-P32	PWM/DOUT/PVGOUT
C1-P8	Sensor power (5V)	C1-P33	DOUT
C1-P9	Sensor ground	C1-P34	DOUT
C1-P10	DIN/AIN/Freq	C1-P35	DOUT
C1-P11	DIN/AIN	C1-P36	DOUT (4A)
C1-P12	DIN/AIN	C1-P37	PWM/DOUT/PVGOUT
C1-P13	CAN 1+	C1-P38	PWM/DOUT/PVGOUT
C1-P14	CAN 1-	C1-P39	PWM/DOUT/PVGOUT
C1-P15	CAN 1 shield/AIN	C1-P40	PWM/DOUT/PVGOUT
C1-P16	DIN/AIN/FreqIn/Rheo/4-20mA	C1-P41	PWM/DOUT/PVGOUT
C1-P17	DIN/AIN/FreqIn/Rheo/4-20mA	C1-P42	PWM/DOUT/PVGOUT
C1-P18	DIN/AIN/FreqIn/Rheo/4-20mA	C1-P43	DOUT
C1-P19	DIN/AIN/FreqIn/Rheo/4-20mA	C1-P44	DOUT
C1-P20	DIN/AIN/FreqIn	C1-P45	DOUT
C1-P21	DIN/AIN/FreqIn	C1-P46	DOUT (4A)
C1-P22	DIN/AIN/FreqIn	C1-P47	PWM/DOUT/PVGOUT
C1-P23	CAN 2+	C1-P48	PWM/DOUT/PVGOUT
C1-P24	CAN 2-	C1-P49	PWM/DOUT/PVGOUT
C1-P25	CAN 2 shield/AIN	C1-P50	PWM/DOUT/PVGOUT

Connector 2

Pin	Controller function	Pin	Controller function
C2-P1	DIN/AIN	C2-P26	DIN
C2-P2	DIN/AIN	C2-P27	DIN
C2-P3	DIN/AIN	C2-P28	DIN
C2-P4	DIN/AIN	C2-P29	DIN
C2-P5	DIN/AIN	C2-P30	DIN
C2-P6	DIN/AIN	C2-P31	PWM/DOUT/PVGOUT
C2-P7	DIN/AIN	C2-P32	PWM/DOUT/PVGOUT
C2-P8	DIN/AIN	C2-P33	DOUT
C2-P9	Sensor power (3V-12V)	C2-P34	DOUT
C2-P10	Sensor ground	C2-P35	DOUT (4A)
C2-P11	DIN	C2-P36	DOUT (4A)
C2-P12	DIN	C2-P37	DOUT
C2-P13	DIN	C2-P38	DOUT
C2-P14	DIN	C2-P39	PWM/DOUT/PVGOUT
C2-P15	DIN	C2-P40	PWM/DOUT/PVGOUT
C2-P16	DIN	C2-P41	PWM/DOUT/PVGOUT
C2-P17	DIN	C2-P42	PWM/DOUT/PVGOUT
C2-P18	DIN	C2-P43	DOUT
C2-P19	DIN	C2-P44	DOUT
C2-P20	DIN	C2-P45	DOUT (4A)
C2-P21	DIN	C2-P46	DOUT (4A)
C2-P22	DIN	C2-P47	DOUT
C2-P23	DIN	C2-P48	DOUT
C2-P24	DIN	C2-P49	PWM/DOUT/PVGOUT
C2-P25	DIN	C2-P50	PWM/DOUT/PVGOUT

Specifications

Supply voltage	7 to 36 Vdc
Operating temperature	-40°C to 85°C
IP rating	IP67
EMI/RFI rating	100 V/M
Weight	
Vibration	IEC 60068-2-64
Shock	IEC 60068-2-27
Max current sourcing	40/20A at 70/85°C
Max current sinking	20A