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SCALEXIO

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I/O Overview

I/O Channels – I/O Function: In

Board	Channel type	Failure Insertion Unit integrated	Number of channels	Current In	Triggered Current In	Voltage In	Multi Bit In	Trigger In	Digital Pulse Capture	PWM/PFM In	Current Signal Capture	Voltage Signal Capture	Digital Incremental Encoder In	Sine Encoder In	Hall Encoder In	Resolver In	EnDat Master	SSI Master	Injection/Ignition Current In	Extension[1]	Injection/Ignition Voltage In	Extension[1]	SENT In
DS6101 Multi-I/O Board	Analog In 4	No	10			✓						✓										✓	
DS6101 Multi-I/O Board	Analog In 5	No	1			✓																	
DS6101 Multi-I/O Board	Digital In 3	No	12				✓	✓	✓	✓													✓
DS6101 Multi-I/O Board	Flexible In 3	No	10			✓	✓	✓	✓	✓		✓									✓	✓	✓
DS6101 Multi-I/O Board	Analog Out 6	No	8																				
DS6101 Multi-I/O Board	Analog Out 7	No	1																				
DS6101 Multi-I/O Board	Analog Out 8	No	3																				
DS6101 Multi-I/O Board	Analog Out 9	No	4																				
DS6101 Multi-I/O Board	Digital Out 3	No	14																				
DS6101 Multi-I/O Board	Resistance Out 2	No	6																				
DS6121 Multi-I/O Board	Analog In 16	No	6			✓						✓											
DS6121 Multi-I/O Board	Resolver In 2	No	1													✓							
DS6121 Multi-I/O Board	Flexible In/Out 1	No	6										✓	✓	✓		✓	✓					
DS6121 Multi-I/O Board	Digital In/Out 9	No	4				✓	✓		✓			✓		✓			✓					
DS6121 Multi-I/O Board	Digital Out 8	No	12																				
DS6201 Digital I/O Board	Digital In/Out 3	No	96				✓			✓													
DS6202 Digital I/O Board[2]	Digital In/Out 5	No	32				✓	✓	✓	✓			✓										✓
DS6221 A/D Board	Analog In 6	No	16			✓						✓											
DS6221 A/D Board	Trigger In 1	No	8					✓															
DS6241 D/A Board	Analog Out 10	No	20																				
DS6241 D/A Board	Trigger In 2	No	4					✓															
DS2655 FPGA Base Board DS6601 FPGA Base Board DS6602 FPGA Base Board		No		DS2655M1 I/O Module: 5 A/D channels, 5 D/A channels, 10 digital I/O channels DS2655M2 I/O Module: 32 digital I/O channels (RS232 or RS485 communication)																			
DS2601 Signal Measurement Board	Flexible In 1	Yes	10	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓
DS2621 Signal Generation Board	Flexible Out 1	Yes	10																				
DS2642 FIU & Power Switch Board			10	Power Switch, Central FIU																			
DS2680 I/O Unit	Analog In 1	Yes	20			✓						✓								✓		✓	
DS2680 I/O Unit	Analog In 2	Yes	2			✓																	
DS2680 I/O Unit	Digital In 1	Yes	30				✓	✓	✓	✓													✓
DS2680 I/O Unit	Flexible In 2	Yes	18	✓	✓		✓	✓	✓	✓	✓								✓	✓	✓	✓	✓
DS2680 I/O Unit	Analog Out 1	Yes	15																				
DS2680 I/O Unit	Analog Out 2	Yes	2																				
DS2680 I/O Unit	Analog Out 3	Yes	7																				
DS2680 I/O Unit	Analog Out 4	Yes	8																				
DS2680 I/O Unit	Digital Out 1	Yes	28																				
DS2680 I/O Unit	Resistance Out 1	Yes	12																				
DS2680 I/O Unit			6	Power Switch, Central FIU																			
DS2690 Digital I/O Board	Digital In 2	Yes	10				✓			✓													
DS2690 Digital I/O Board	Digital Out 2	Yes	10																				
DS2690 Digital I/O Board	Digital In/Out 1	Yes	10				✓			✓													

I/O Channels – I/O Function: Out

Board	Channel type	Current Sink	Voltage Out	Multi Bit Out	Digital Pulse Out	Potentiometer Out	Resistance Out	PWM/PFM Out	Multi-Channel PWM Out	Block Commutated PWM Out	Wavetable Current Sink	Wavetable Digital Out	Wavetable Voltage Out	Angular Wavetable Digital Out	Angular Wavetable Voltage Out	Digital Incremental Encoder Out	Wheelspeed Out	Waveform Current Sink	Waveform Voltage Out	Waveform Digital Out	Crank/Cam Current Sink	Crank/Cam Digital Out	Crank/Cam Voltage Out	Knock Signal Out	Lambda DCR[3]	Lambda NCCR[3]	SENT Out
DS6101 Multi-I/O Board	Analog In 4																										
DS6101 Multi-I/O Board	Analog In 5																									✓	
DS6101 Multi-I/O Board	Digital In 3																										
DS6101 Multi-I/O Board	Flexible In 3																										
DS6101 Multi-I/O Board	Analog Out 6		✓										✓		✓				✓				✓				
DS6101 Multi-I/O Board	Analog Out 7		✓																✓						✓	✓	
DS6101 Multi-I/O Board	Analog Out 8												✓		✓				✓				✓	✓			
DS6101 Multi-I/O Board	Analog Out 9	✓	✓								✓		✓		✓		✓	✓	✓		✓		✓				
DS6101 Multi-I/O Board	Digital Out 3			✓	✓			✓				✓		✓		✓				✓		✓					✓
DS6101 Multi-I/O Board	Resistance Out 2					✓	✓																		✓	✓	
DS6121 Multi-I/O Board	Analog In 16																										
DS6121 Multi-I/O Board	Resolver In 2																										
DS6121 Multi-I/O Board	Flexible In/Out 1																										
DS6121 Multi-I/O Board	Digital In/Out 9			✓	✓			✓	✓																		
DS6121 Multi-I/O Board	Digital Out 8			✓	✓			✓	✓	✓																	
DS6201 Digital I/O Board	Digital In/Out 3			✓				✓																			
DS6202 Digital I/O Board[2]	Digital In/Out 5			✓	✓			✓	✓			✓		✓		✓				✓							✓
DS6221 A/D Board	Analog In 6																										
DS6221 A/D Board	Trigger In 1																										
DS6241 D/A Board	Analog Out 10		✓										✓		✓				✓								
DS6241 D/A Board	Trigger In 2																										
DS2601 Signal Measurement Board	Flexible In 1																										
DS2621 Signal Generation Board	Flexible Out 1	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
DS2680 I/O Unit	Analog In 1																										
DS2680 I/O Unit	Analog In 2																									✓	
DS2680 I/O Unit	Digital In 1																										
DS2680 I/O Unit	Flexible In 2																										
DS2680 I/O Unit	Analog Out 1		✓										✓		✓				✓				✓				
DS2680 I/O Unit	Analog Out 2		✓																✓						✓	✓	
DS2680 I/O Unit	Analog Out 3												✓		✓				✓				✓	✓			
DS2680 I/O Unit	Analog Out 4	✓	✓								✓		✓		✓		✓	✓	✓		✓		✓				
DS2680 I/O Unit	Digital Out 1			✓	✓			✓				✓		✓		✓				✓		✓					✓
DS2680 I/O Unit	Resistance Out 1					✓	✓																		✓	✓	
DS2690 Digital I/O Board	Digital In 2																										
DS2690 Digital I/O Board	Digital Out 2			✓				✓																			
DS2690 Digital I/O Board	Digital In/Out 1			✓				✓																			

[1] Extension for using extended signal analysis. Additional channels are required.
[2] The number of function instances is limited for selected functions.
[3] Several channel types are required for this function.

Bus Overview

SCALEXIO Bus Boards – Buses and Networks

Board	Channel type	Failure Insertion Unit integrated	Number of channels	CAN/CAN FD	LIN	FlexRay	RS-232	RS-422	RS-485	Standard Ethernet (Physical Layer)	Automotive Ethernet (Physical Layer)	UDP	TCP	SOME/IP
SCALEXIO Processing Unit	Ethernet Adapter 1	No	1							✓		✓	✓	✓
SCALEXIO Processing Unit	UART 5	No	1				✓							
DS6001 Processor Board	Ethernet Adapter 1	No	1							✓		✓	✓	✓
DS6001 Processor Board	UART 6	No	1				✓							
DS6301 CAN/LIN Board	CAN 2	No	4	✓										
DS6301 CAN/LIN Board	LIN 2	No	4		✓									
DS6311 FlexRay Board	FlexRay 2	No	4			✓								
DS6321 UART Board	UART 1	No	4				✓	✓	✓					
DS6331-PE Ethernet Board	Ethernet Adapter 1	No	4							✓		✓	✓	✓
DS6333-CS Automotive Ethernet Board	Ethernet Adapter 2	No	4							✓	✓	✓	✓	✓
DS6333-PE Automotive Ethernet Board	Ethernet Adapter 2	No	4							✓	✓	✓	✓	✓
DS6334-PE Ethernet Board	Ethernet Adapter 1	No	4							✓		✓	✓	
DS6335-CS Ethernet Board	Ethernet Adapter 2	No	4							✓	✓	✓	✓	
DS6341 CAN Board	CAN 2	No	4	✓										
DS6351 LIN Board	LIN 2	No	8		✓									
DS2671 Bus Board	Bus 1	Yes	4	✓	✓	✓	✓	✓	✓					
DS2672 Bus Module (Add-on for DS2680)	CAN 1	Yes	2	✓										
DS2672 Bus Module (Add-on for DS2680)	LIN 1	Yes	2		✓									
DS2672 Bus Module (Add-on for DS2680)	FlexRay 1	Yes	2			✓								

SCALEXIO Aerospace Solutions

- SCALEXIO Interface Solution for ARINC 429
- SCALEXIO Interface Solution for ARINC 664 and AFDX® (AFDX® is a registered trademark of AIRBUS)
- SCALEXIO Interface Solution for MIL-STD-1553

Additional SCALEXIO Solutions

- SCALEXIO Fieldbus Solution for PROFIBUS and EtherCAT
- SCALEXIO Serial Interface Solution for Serial Peripheral Interface (SPI) and Inter-Integrated Circuit (I^2C)
- SCALEXIO EMH Solution for Electric Drives Simulation
- SCALEXIO TWINsync Solution
- PSI5 Master/Slave Solution

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