

DEWE-ORION-1624-20x

- 16 simultaneous sampled differential channels at 204.8 kS/s each
- 24-bit resolution
- Anti-aliasing filter
- High dynamic range (108 dB)
- 120 dB channel separation
- Very high amplitude accuracy



Recommended Usage:

- NET Solution
- Data Recorder
- Dynamic Signal Analyzer
- Transient Recorder
- Power Network Analyzer
- Combustion Analyzer

Online Information:

www.dewetron.info/orion

Model	Analog input channels	Max. sampling rate / channel	Digital input channels	Digital I/O	Ext. Clock	Ext. Trigger	Counter Encoder TTL	Counter Encoder DIFF	CAN
DEWE-ORION-1624-200	16	204.8 kS/s	2 (8*)	8	-	1	2	-	-
DEWE-ORION-1624-201	16	204.8 kS/s	2 (8*)	8	-	1	2	-	2
DEWE-ORION-1624-202	16	204.8 kS/s	10 (40*)	8	-	1	2 + 8	-	-
DEWE-ORION-1624-203	16	204.8 kS/s	10 (40*)	8	-	1	2 + 8	-	2
DEWE-ORION-1624-204	16	204.8 kS/s	10 (40*)	8	-	1	2	8	-
DEWE-ORION-1624-205	16	204.8 kS/s	10 (40*)	8	-	1	2	8	2

* Without using counter inputs

DEWE-ORION-1624-20x	
Analog input	THD (1kS/s ≤ f _s ≤ 102.4 kS/s)
Channel characteristics	0 dB _{F_S} input < -90 dB -20 dB _{F_S} input < -100 dB -60 dB _{F_S} input < -60 dB
Number of channels	16, simultaneously sampled
Input configuration	Symmetric, differential
Resolution	24-bit, nominal
Type of ADC	Delta-sigma
Sampling rate	204.8 kS/s per channel
Data throughput	3.2 MS/s
Oversampling, for sample rate (f _s)	Filter delay through ADC
Frequency accuracy	1 kS/s ≤ f _s ≤ 51.2 kS/s
1 kS/s ≤ f _s ≤ 51.2 kS/s	256 f _s
51.2 kS/s < f _s ≤ 102.4 kS/s	12 / f _s
102.4 kS/s < f _s ≤ 204.8 kS/s	9 / f _s
	5 / f _s
Input signal range	Inter channel phase mismatch
±10 V peak	0.02° * f _{in} (kHz) + 0.08°
FIFO buffer size	Maximum working voltage
4096 samples	Channel-to-ground, channel-to-channel
Data transfers	10 V, installation category I
DMA	Max. working voltage refers to the signal voltage plus common-mode voltage.
Transfer characteristics	Trigger
Offset (residual DC)	Digital trigger: compatibility
1 kS/s ≤ f _s ≤ 51.2 kS/s	5 V TTL/CMOS
51.2 kS/s < f _s ≤ 102.4 kS/s	Counter / digital inputs
102.4 kS/s < f _s ≤ 204.8 kS/s	Counter modes
Gain (amplitude accuracy)	Simple event counting
±0.005 dB @ DC	Up/down counting
Gain drift	Gated event counting
±15 ppm/K	Single period measurement
Amplifier characteristics	Pulse width measurement
Input impedance (ground referenced)	Two pulse edge separation
Positive input	Encoder input (X1, X2, X4 or up/down)
10 MΩ in parallel with 60 pF	Frequency measurement
Negative input	
10 MΩ in parallel with 60 pF	
Overvoltage protection	Resolution
Positive input	32-bit
±30 V	Time base
Negative input	80 MHz
±30 V	Specification of Counter/Encoder TTL
Common mode rejection ratio (CMRR)	Level compatibility
f _{in} < 1 kHz	TTL/CMOS
> 60 dB, typ.	Maximum input frequency
Flatness	40 MHz
1 kS/s ≤ f _s ≤ 51.2 kS/s	Specification of Counter/Encoder DIFF
-0.035 dB to +0.01 dB, DC to 0.475 f _s	Input configuration
51.2 kS/s < f _s ≤ 102.4 kS/s	Input trigger level
-0.035 dB to +0.01 dB, DC to 0.45 f _s	Input coupling
102.4 kS/s < f _s ≤ 204.8 kS/s	Voltage range
-0.035 dB to +0.01 dB, DC to 0.246 f _s	Maximum input frequency
-3 dB Bandwidth	5 MHz
1 kS/s ≤ f _s ≤ 51.2 kS/s	CAN
0.494 f _s	Specification
51.2 kS/s < f _s ≤ 102.4 kS/s	CAN 2.0B
0.49 f _s	Physical Layer
102.4 kS/s < f _s ≤ 204.8 kS/s	High Speed
0.38 f _s	Power requirements
Dynamic characteristics	+3.3 V _{DC}
Alias-free bandwidth (passband)	0 mA
1 kS/s ≤ f _s ≤ 51.2 kS/s	+5 V _{DC}
DC (0 Hz) to 0.42 f _s	800 mA max
51.2 kS/s < f _s ≤ 102.4 kS/s	+12 V _{DC}
DC (0 Hz) to 0.32 f _s	400 mA max
102.4 kS/s < f _s ≤ 204.8 kS/s	DC (0 Hz) to 0.22 f _s
Alias rejection	Environmental
1 kS/s ≤ f _s ≤ 51.2 kS/s	Operating temperature
-95 dB	0 to 50 °C
51.2 kS/s < f _s ≤ 102.4 kS/s	Storing temperature
-92 dB	-20 to 70 °C
102.4 kS/s < f _s ≤ 204.8 kS/s	Relative humidity
-97 dB	10 to 90 %, non condensing
Signal to noise	Maximum altitude
1 kS/s ≤ f _s ≤ 51.2 kS/s	2000 m
108 dB	Pollution degree (indoor use only)
51.2 kS/s < f _s ≤ 102.4 kS/s	2
105 dB	Physical
102.4 kS/s < f _s ≤ 204.8 kS/s	Dimensions (not including connectors)
80 dB	17.5 x 10.7 cm (6.9 x 4.2 in.)
	Analog I/O connector
	68-pin SCSI-II PCB male