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Find the *Dewetron DEWE-ORION-1624-200* at our website: *Click HERE*

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	
Channel characteristics	
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 (fs)	
Frequency accuracy	±25 ppm
1 kS/s ≤ f_s ≤ 51.2 kS/s	256 f_s
51.2 kS/s < f_s ≤ 102.4 kS/s	128 f_s
102.4 kS/s < f_s ≤ 204.8 kS/s	64 f_s
Input signal range	±10 V peak
FIFO buffer size	4096 samples
Data transfers	DMA
Transfer characteristics	
Offset (residual DC)	
1 kS/s ≤ f_s ≤ 51.2 kS/s	±0.5 mV
51.2 kS/s < f_s ≤ 102.4 kS/s	±0.7 mV
102.4 kS/s < f_s ≤ 204.8 kS/s	±1.5 mV
Gain (amplitude accuracy)	±0.005 dB @ DC
Gain drift	±15 ppm/K
Amplifier characteristics	
Input impedance (ground referenced)	
Positive input	10 MΩ in parallel with 60 pF
Negative input	10 MΩ in parallel with 60 pF
Overvoltage protection	
Positive input	±30 V
Negative input	±30 V
Common mode rejection ratio (CMRR)	
f_{in} < 1 kHz	> 60 dB, typ.
Flatness	
1 kS/s ≤ f_s ≤ 51.2 kS/s	-0.035 dB to +0.01 dB, DC to 0.475 f_s
51.2 kS/s < f_s ≤ 102.4 kS/s	-0.035 dB to +0.01 dB, DC to 0.45 f_s
102.4 kS/s < f_s ≤ 204.8 kS/s	-0.035 dB to +0.01 dB, DC to 0.246 f_s
-3 dB Bandwidth	
1 kS/s ≤ f_s ≤ 51.2 kS/s	0.494 f_s
51.2 kS/s < f_s ≤ 102.4 kS/s	0.49 f_s
102.4 kS/s < f_s ≤ 204.8 kS/s	0.38 f_s
Dynamic characteristics	
Alias-free bandwidth (passband)	
1 kS/s ≤ f_s ≤ 51.2 kS/s	DC (0 Hz) to 0.42 f_s
51.2 kS/s < f_s ≤ 102.4 kS/s	DC (0 Hz) to 0.32 f_s
102.4 kS/s < f_s ≤ 204.8 kS/s	DC (0 Hz) to 0.22 f_s
Alias rejection	
1 kS/s ≤ f_s ≤ 51.2 kS/s	-95 dB
51.2 kS/s < f_s ≤ 102.4 kS/s	-92 dB
102.4 kS/s < f_s ≤ 204.8 kS/s	-97 dB
Signal to noise	
1 kS/s ≤ f_s ≤ 51.2 kS/s	108 dB
51.2 kS/s < f_s ≤ 102.4 kS/s	105 dB
102.4 kS/s < f_s ≤ 204.8 kS/s	80 dB
THD (1kS/s <= f_s <= 102.4 kS/s)	0 dB_{FS} input < -90 dB
	-20 dB_{FS} input < -100 dB
	-60 dB_{FS} input < -60 dB
Crosstalk (channel separation)	
f_{in} 0 to 10 kHz	120 dB
f_{in} 10 to 50 kHz	105 dB
Interchannel gain mismatch	±0.002 dB
Filter delay through ADC	
1 kS/s ≤ f_s ≤ 51.2 kS/s	12 / f_s
51.2 kS/s < f_s ≤ 102.4 kS/s	9 / f_s
102.4 kS/s < f_s ≤ 204.8 kS/s	5 / f_s
Inter channel phase mismatch	0.02° * f_{in} (kHz) + 0.08°
Maximum working voltage	
Channel-to-ground, channel-to-channel	10 V, installation category I
Max. working voltage refers to the signal voltage plus common-mode voltage.	
Trigger	
Digital trigger: compatibility	5 V TTL/CMOS
Counter / digital inputs	
Counter modes	Simple event counting
	Up/down counting
	Gated event counting
	Single period measurement
	Pulse width measurement
	Two pulse edge separation
	Encoder input (X1, X2, X4 or up/down)
	Frequency measurement
Resolution	32-bit
Time base	80 MHz
Specification of **Counter/Encoder TTL**	
Level compatibility	TTL/CMOS
Maximum input frequency	40 MHz
Specification of **Counter/Encoder DIFF**	
Input configuration	Differential
Input trigger level	Programmable from 0 to 40 V
Input coupling	DC or AC (HPF 1 Hz)
Voltage range	-40 V to 60 V
Maximum input frequency	5 MHz
CAN	
Specification	CAN 2.0B
Physical Layer	High Speed
Power requirements	
+3.3 V_{DC}	0 mA
+5 V_{DC}	800 mA max
+12 V_{DC}	400 mA max
Environmental	
Operating temperature	0 to 50 °C
Storing temperature	-20 to 70 °C
Relative humidity	10 to 90 %, non condensing
Maximum altitude	2000 m
Pollution degree (indoor use only)	2
Physical	
Dimensions (not including connectors)	17.5 x 10.7 cm (6.9 x 4.2 in.)
Analog I/O connector	68-pin SCSI-II PCB male

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