GÜRALP CMG-DM16-R8

8 CHANNEL, 16-BIT, BROADBAND SEISMOMETER DATA ACQUISITION UNIT

This module is built inside a standard 1U-19in rack enclosure. The eight individual differential input channels are connected to the outside signals through isolated BNC plugs. The BNC plugs are marked with channel letters from A to H. Alternative inputs are provided from the rear of the 19in rack enclosure.

The input stages of all the differential amplifiers are protected against excessive input voltages and limited to ±10V. The differential amplifiers have an input impedance of 1M. Each input is furnished with an inductor and capacitor network to filter out the high frequency signals and enable a minimum of 100dB of common mode rejection.

To minimise ground loops the differential power supply is isolated. Two sets of dedicated dc-dc converters ensure low noise dc supply voltages to the input stages and the digitizer electronics.

TIMING OF THE DIGITIZER

An external GPS input is provided. If more than one DM16 unit is to be used, the GPS timing signal can be cascaded between different DM16 modules, eliminating the need for multiple GPS units.

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CMG-DM16-R8 SPECIFICATION

SEISMIC CHANNELS

Number of Channels	:	8 @ 16-bits
Inputs	:	Differential with transient protection
	:	±10 Volts input range
Input Impendance	:	1 MΩ, 10 nano Farad
Common Mode Rejection	:	100 dB at 50Hz

GPS	:	External GPS (CMG-GPS2) GPS can be connected with 50 metres of cable
GPS Power	:	Supplied via the GPS connector on the digitizer
GPS Time Format	:	NMEA

DIGITAL SIGNAL PROCESSOR

Type and Speed	:	M56002, 20 Mhz
Hardware Sampling Rate	:	2 Khz
Selectable Sample Output Rates available from the DSP	:	Up to three separate rates are available. User selects each in serial, beginning with 200 sps and dividing the prior rate by 2, 3, 4, 5, 8 or 10. Examples: 200, 100, 10 sps or 100, 40, 4 sps. The sample rates must be integers.
Anti-alias Filters	:	3 pole
Low Pass Filters	:	FIR
Out of Band Rejection	:	140dB
In band ripple	:	- 140dB
Trigger Modes	:	STA/LTA

DIGITIZER PERFORMANCE

Standard Output Format	:	16-bits @ 100sps
Noise-free Resolution, NPR	:	17.5 bits @5sps
Absolute Accuracy	:	Standard - 0.5%, Optional - 0.1%
Type	:	Succesive approximation

CLOCK

Oscillator	:	Standard - 8×10^{-7}, Optional (oven-controlled) - 5×10^{-8}
Interface for External Receiver	:	GPS
Sync for External Receiver	:	<200 μsec

POWER

Customer Power Supply	:	+12 to 36 Vdc
Current at 12 Vdc	:	250 mA

PHYSICAL	:	1U-19in rack mount
Width	:	437mm external
Depth	:	42mm external
Height	:	305mm external
Front Panel	:	483mm x 44mm

OUTPUT OPTIONS

RS232	:	100 ft
RS422	:	500 ft