becker®
MINING SYSTEMS

RNG-CMI VHF CABLE MODEM INTERFACE

- Interface Between RNG-AMP Systems and Standard Cable Modems
- Power Level Adjustments for CMTS channels
- Upstream CMTS Band Frequency Conversion
- 12Vdc Input Voltage

smartcom®

smartcom®

VHF CABLE MODEM INTERFACE
RNG-CMI

FEATURES

Becker Mining Systems Cable Modem Interface Unit acts as a bridge between smartcom® 150 Leaky Feeder networks containing RNG-AMP line amplifiers and standard cable modem hardware.

CMTSI and RNG-CMI units work together to compensate for Varis smartcom® 150 line amplifiers (RNG-AMP, RNG-AMPS) not having the same upstream band-pass as CATV networks. The interface units perform a frequency translation to insert and extract a 6.4 MHz wide 64 QAM data channel over the Leaky Feeder network.

The RNG-CMI performs an up-conversion from CATV sub-band upstream frequencies to smartcom® 150 upstream frequencies, while the CMTSI does the opposite.

In addition to performing upstream frequency conversion, the RNG-CMI performs power level adjustments for the upstream/downstream CMTS channels.

MECHANICAL DATA	
Enclosure	Polycarbonate
Dimensions (L x H x W)	295 x 90 x 180 mm (11.6 x 3.5 x 7.1 in)
Weight (nominal)	1.42 kg (3.13 lbs)
Leaky Feeder Connector	Three Terminal Lug Connector, PG 21 cable grip
Cable Modem Connector	F-type Jack
Power Connector	Terminal Block

ENVIRONMENTAL DATA	
Temperature Range	-30 to +70°C (-22 to +158°F)
Protection Class	NEMA 4x (IP66)

TECHNICAL DATA

PERFORMANCE SPECIFICATIONS	
Maximum Frequency Drift	± 1 ppm (over temperature range)
Input/Output Impedance	75 Ω
AC Adaptor Input Voltage	100 - 240 Vac
Board Input Voltage	12 Vdc
Current Consumption	< 600 mA
DC Blocking	Input/Output ports
Downstream	
Bandpass	145-160 MHz
DOCSIS 2.0 Data Rate	30.34 Mbps (64 QAM)
Insertion Loss	20-22 dB @ 153 MHz
Attenuation Range	30 dB (2 dB steps)
Input Power Level	≤ 50 dBmV
Output Power Level	5 - 15 dBmV
MER	≥ 40 dB
BER	< 1.0E-10 Pre-FEC
Spurious	< -83 dBm @ LO Freq: 150.25 MHz
Upstream	
Input Bandpass	25.75-34.75 MHz
Output Bandpass	176-185 MHz
DOCSIS 2.0 Data Rate (max)	30.72 Mbps (64 QAM, 6.4 MHz)
Gain	16-19 dB @ 29.75 MHz
Attenuation Range	30 dB (2 dB steps)
Input Power Level	10-55 dBmV
Output Power Level	≤ 60 dBmV
MER	≥ 40 dB
BER	< 1.0E-10 Pre-FEC

Technical data are limit values.

If the product is integrated into systems or operated in combination with other devices, its permissible operating values can deviate from these limit values. Subject to technical modifications without prior notice.

Rev. G

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