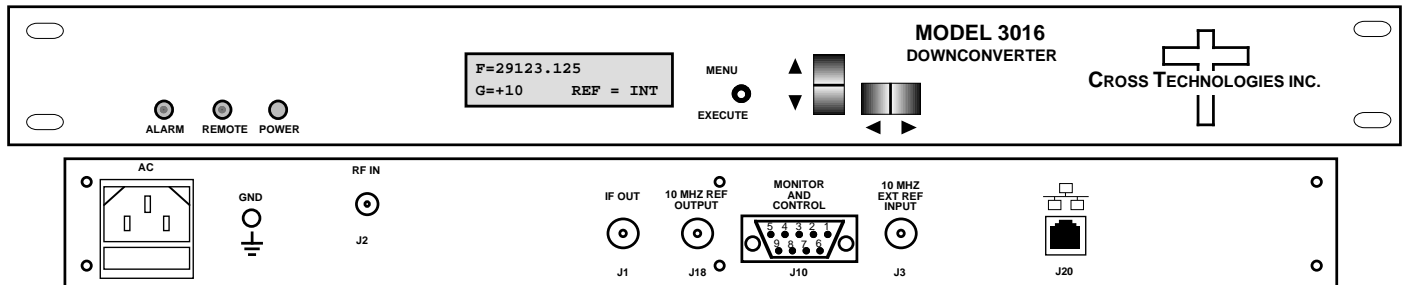


3016-2830 Downconverter, 28 - 30 GHz, 70 MHz IF

The 3016-2830 Downconverter converts **28 to 30 GHz** to 70 ± 18 MHz in 125 kHz steps (**1 kHz opt- X1008**). This unit combines a **agile** block downconverter with a **2.8 GHz** to 70 MHz downconverter to obtain the wide tuning range. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the input frequency, gain, and other parameters. Front panel LEDs provide indication of DC power, PLL alarm or Remote operation. Gain is adjustable manually (MGC) over a **+10 to +30 dB** range. The frequency and gain are remotely selectable. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are **2.92 mm female** for the RF, and BNC female for the IF and external 10 MHz reference input and output. Other connector options are available. It is powered by a 100-240 $\pm 10\%$ VAC power supply, and is in a 1 3/4" X 19" X 18" rack mount chassis.



Front and Rear Panels (Shown with optional Ethernet)

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50 Ω /18 dB typ., 14dB min.**
 Frequency **28 to 30 GHz**
 Noise Figure, max. **20 dB (max gain)**
 Input Level Range **-50 to -30 dBm**

Output Characteristics (IF)

Impedance/Return Loss **75 Ω /18 dB**
 Frequency **70 \pm 18 MHz**
 Output level Range **-20 to 0dBm**
 Output 1 dB compression **+10 dBm**

Channel Characteristics

Gain Max/range (adj.) **30 \pm 3 dB Max./ +10.0 to +30.0 dB range, 0.5dB \pm 0.5 dB steps**
 Image Rejection **> 50 dB, min.**
 Frequency Response **± 3.0 dB, 28-30 GHz; ± 1.5 dB, any 1 GHz band; ± 1.0 dB, 36 MHz BW**
 Spurious Response **< -50 dBc, in band, 28 to 30 GHz**
 Intermod **< -50 dBc for two carriers each at -5 dBm out**
 Group Delay, max **0.02 ns/MHz² parabolic; 0.05ns/MHz linear; 1 ns ripple, 36 MHz BW**
 Frequency Sense **Inverting or Non-inverting (user selectable)**

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm max over temp internal ref; ext ref. input**
 Frequency Step **125 kHz minimum, (1 kHz opt- X1008)**
 10 MHz In/Out Level **3 dBm \pm 3 dB**

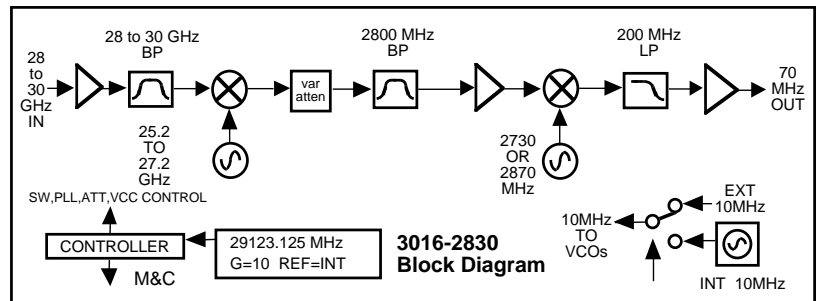
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	60	70	80	90	100

Controls, Indicators

Freq/Gain Selection **direct readout LCD; manual or remote selection**
 Power; Alarm; Remote **Green LED; Red LED; Yellow LED**
 Remote **RS232C, 9600 baud (RS422/485/opt.-Q, Ethernet/opt-W8,18,28)**

Other

RF, IF Connectors **2.92 mm (female), BNC, 75 Ω (female), (50 Ω IF opt- S29)**
 10MHz Connectors **BNC (female) 50 Ω , works for 50 or 75 ohms**
 Alarm/Remote Conn. **DB9 (female) - NO or NC contact closure on Alarm**
 Size **19 inch, 1RU standard chassis 1.75" high X 18.0" deep**
 Power **100-240 $\pm 10\%$ VAC, 47-63 Hz, 60 watts max**



Available Options

W16 - Test Data
 W71 - IF Mon., - 20dB, 50 ohm
 W73 - RF Mon., - 3 \pm 3dB, 50 ohm
 X1008 - 1 kHz steps

Remote M&C Interfaces:

Q - RS485/422
 W8 - Ethernet; w/Web Browser (WB)
 W18 - Ethernet; w/WB & SNMP
 W28 - Ethernet; w/TCP/IP, Telnet

Connectors/Impedance

S29 - 2.92mm (RF), 50 Ω BNC (IF)
 SS29- 2.92mm (RF), SMA (IF)

Contact Cross for other options

*10°C to 40°C; Specifications subject to change without notice