

CW-4024 SATELLITE IF DISTRIBUTOR

SAT IF distributor with 4 inputs, 3×3 plus 1×6 outputs, GaAs amplifiers and power supply for up to 4 LNBS

The devices of satellite reception have been developed outstandingly in the last two decades, but they still cannot be said being reached perfection. Frequent problems to be solved at satellite reception are:

- New digital satellite receivers work with low internal supply voltage and low current consumption (max. 3.3 V / 1 A), thus powering the LNBS with the necessary 14 ... 18 V from the receiver is not economic anymore.
- Most of the satellite tuners are equipped with loop-through input, however due to the low driveability of the amplifier stage used in the loop the output signal quality is not sufficient for professional applications.
- The gain and driveability of the LNBS reached such a high level that used with the large size satellite antennas of professional applications they may cause overdriving of the further circuitries.

CableWorld's new generation CW-4024 Satellite IF Distributor has been designed to solve all these problems: it provides supply voltage for 4 LNBS, and using advanced GaAs amplifiers distributes the 950 - 2150 MHz SAT IF signal coming from the four LNBS to 3 × 3 and 1 × 6 outputs. The LNBS are powered from independent, short-circuit protected power supplies, which can be switched on/off from the front panel. The outputs of the distributors are DC separated.



- Powering 4 LNBS with +15 V supply voltage, including current limiting short-circuit protection
- Individual switch on/off of the LNB powering, overload indicator LEDs on the front panel
- 4 high driveability, high linearity InGaP/GaAs amplifiers
- 0 ... +2 dB gain in the 950 ... 2150 MHz SAT IF frequency range
- Three 3-output and one 6-output directional coupler type distributors
- A total of 15 DC-separated outputs
- Low power consumption (typically 50 W), high reliability, long life-time

The CW-4024 Satellite IF Distributor is a complementary device for digital television systems and digital headends. It powers the LNBS in the satellite antennas and distributes the SAT IF signal to the satellite receivers.

The device delivers the supply voltage to four LNBS through the inner conductor of the coaxial SAT IF cable. The supply voltages can individually be switched on/off from the front panel; in case of short-circuit the supply current is limited to approx. 450 mA.

The SAT IF signals produced by the LNBS are received by GaAs amplifiers and will be amplified to a level, which assures at the outputs of the directional coupler type distributors a signal level approximately same as the input level.

The user should mind the high output level of today's LNBS, which in many cases causes problem by extensively overdriving the further circuitries. The risk of overdriving is especially high in professional systems where for good and secure reception large satellite antennas are used.

Preventing the overdriving is especially important at receiving DVB-S2 signals because these signals will not be transmitted with simple QPSK modulation but with modulation modes using multiple levels also in amplitude.

When using a large satellite antenna and short leading cable, attenuation of the signal may be needed in order to avoid overdriving. Since the powering is made through the inner conductor of the coaxial cable, for attenuating the signal only directional coupler types passing through the DC can be applied.

The device has been designed for continuous operation; its power consumption depends practically on the power consumption of the applied LNBS only. The device does not need more cooling than generally provided in the rack cabinets.

The block diagram of the distributor is shown in the figure below.

Technical data

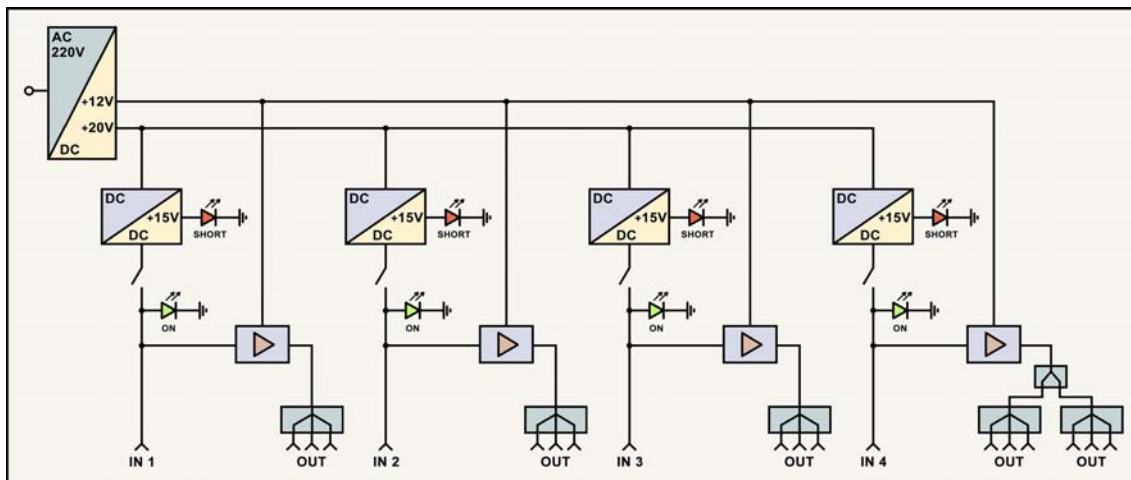
Operational frequency range	950 ... 2150 MHz
Nominal input and output impedance	75 Ω
Input return loss	>10 dB
Output return loss	>10 dB
Separation between inputs	>22 dB
Gain	0 dB ... +2 dB
Amplitude response	<3 dB
Maximum output level	70 dBmV / channel
LNB powering	+15 V
Current limit	at 450 ... 500mA

IF inputs and outputs

Number of 3-output distributors	3
Number of 6-output distributors	1
Number of connectors	
Number of IF inputs	4
Number of IF outputs	15 (3 × 3 and 1 × 6)
Type of connectors	F sockets

General data

Front panel LED indicators	power on, LNB POWER ON LNB SHORT (short-circuit at the output)
Mass	approx. 3.5 kg
Physical dimensions	19" × 1 HU
Width × height × depth	483 × 43.6 × 473 mm
Service period	continuous
Power requirement	230 V -15 % ... +10 %, 50/60 Hz
Power consumption	max. 50 VA
Temperature range for operation	0 ... +40 °C
Relative humidity	max. 80 %
Temperature range for storage	- 25 ... +45 °C
Relative humidity	max. 95 %, non condensing



Budapest XI., Kondorfa u. 6/B
Hungary



Tel.: +36 1 204 7815
Fax: +36 1 204 7839

Internet: www.cableworld.eu
E-mail: cableworld@cableworld.hu