Protected dc injector with agc

The injector provides the stabilized supply voltages and 10 MHz reference signal (option) for both reception part (LNB) and transmitting part (upconverter block (BUC)) with remote control.

This Injector-regulator is intended to work as a part of simplex relaying radio relay station. It features remote control over IP input and automatic level control (ALC) of passable RF power.

It provides the stabilized supply voltages and 10 MHz reference signal (option) for both reception part (LNB) and transmitting part (upconverter block (BUC)). Power and 10 MHz reference signal are supplied to LNB and BUC through the radio-frequency cables which connect them to the Injector.

The Injector provides remote switching on/off the power supply voltages and reference signals for both LNB and BUC. The supply voltage of LNB has a fixed value of +15 VDC.

One of the device's features is wide-range output power automatic level control on the output (in BUC shoulder) that allows reaching the high level stability of the power arriving to BUC from LNB in wide range. It is especially useful for RRS with non-AGC LNB. In addition, this feature provides high temperature stability of the signal level which is supplied to BUC. The ALC scheme chips with very wide gain retuning range (50dB) allow in wide limits (not less 30dB) to change the automated level control threshold level. Thus automated level control range at any of threshold levels is equal not less +/-10 dB from nominal level.

The injector is equipped with dust and moisture proof case with rubber sealants and glass connectors. The case is performed with LED indication of rated current consumption for both loadings. Optionally the injector can be equipped with redundant power supply with automatic changeover.

Parameter	Value
Operating frequency range, MHz	950-1750
Input/output Impedance, Ohm	50
Inputs and outputs VSWR, no more than	1.8
Gain factor unevenness in the operating frequency range, dB, no more than	3.0
Remote control (ALC) power level range at the output, dBmkV	70 - 100
Maximum level of the modulated signal on the input, dBmW, no more than	-10
Range of an automated level regulating, dB, not less	+/- 10
General supply voltage, VDC	24±0.2
BUC regulated supply voltage, VDC	24±0.2
BUC maximum current, A	2.0

LNB regulated supply voltages, VDC	+15
LNB maximum current, A	0.5
Reference signal frequency, MHz	10
Reference signal level on the input and output, dBm	-5…+5
Reference signal relative stability, ppm	2.5
RF connectors type	N
Power supply connector type	PC-7 (male)
TCP/IP connector type	PC-10 (male)
Dimensions, mm	155x114x55