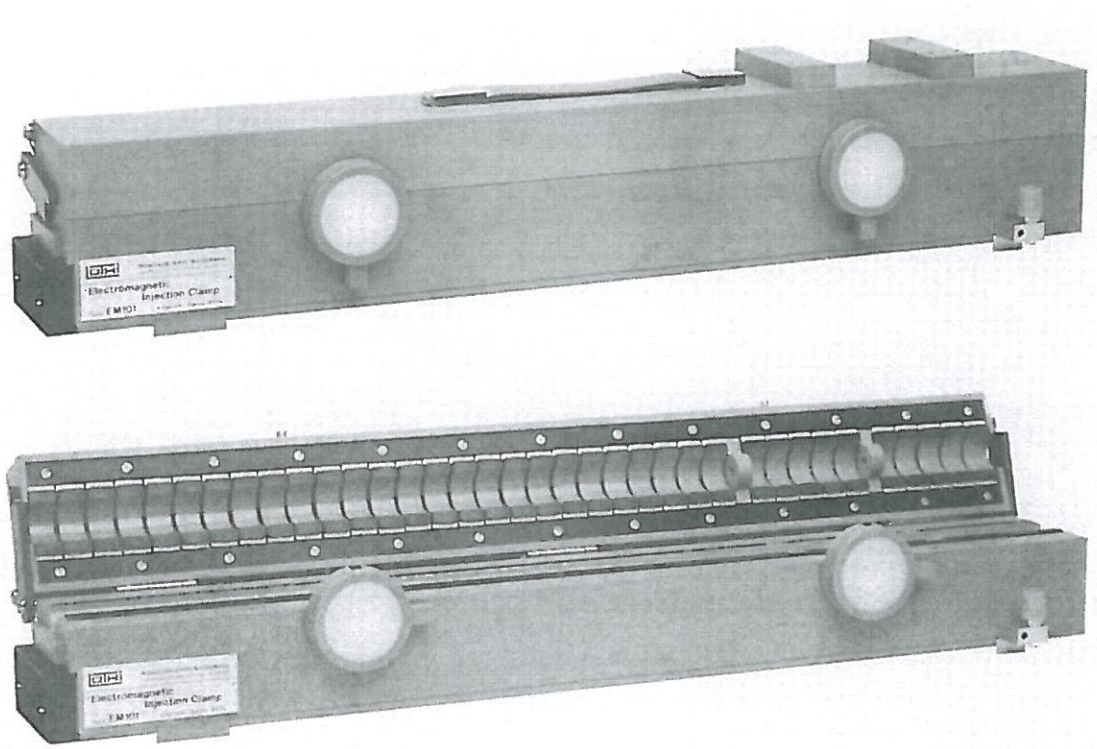
Lüthi Elektronik – Feinmechanik

RF CURRENT - INJECTION CLAMP TYPE EM 101

Electromagnetic Clamp, System Swiss PTT



Characteristics

Operating frequency range: 0,15 ... 1000 MHz

The correction factor " k " depend of the frequency
Guaranteed value: k = 0 dB ± 3 dB in the frequency range 0,3 ... 400 MHz
Typical min. value: k = - 5 dB by 0,15 MHz
k = - 5 dB by 1000 MHz

The correction factor k is defined with respect to a 150 Ω impedance system, in line with CISPR Publ. 20 (see also fig. 4)

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with I_{ind} : Current induced by the EM clamp into a cable having 150 Ω load at both ends. The clamp is hereby supplied from a 50 Ω- source having an electromotive force (e.m.f.) of the value U_o

I_{ref} : Nominal reference current from the same e.m.f. into 300 Ω (2 x 150Ω) total load : $I_{ref} = \frac{U_o}{300\ \Omega}$

RF-supply: RF-source of 50 Ω internal resistance

a) Sine-wave operation, maximum allowed e.m.f.:
0,15 ... 100 MHz : 140 V_{rms} (100 W source), max. 15 min.
100 ... 230 MHz : 140 V_{rms} (100 W source), max. 5 min.
230 ... 1000 MHz : 100 V_{rms} (50 W source), max. 3 min.

The severity of an immunity test with the above e.m.f. corresponds to an electromagnetic field-strength in the order of 100 V/m.

b) Pulse mode operation:
fast transients of 5ns / 50ns from a burst generator with a charging voltage up to 4 kV (IEC Publ. 801 - 4).

Directivity as current injection clamp: ≈10 dB beyond 25 MHz

Specifications:

Dimensions:	620 x 100 x 120 mm
Diameter of the window:	22 mm
Weight:	7,5 kg
Verification:	by Swiss Federal Office of Metrology CH - Bern

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