

LYNX

Manual "Resistance / Capacitance & Capacitance unbalances" (RCKE) test instrument



DESCRIPTION

This RCKE testing system is especially developed for the intermediate testing of long distance pairs, triads and quads intended to be assembled in more complex cables.

During the production process, the performance of the twisting-machines can thus be controlled at regular intervals allowing monitoring the manufacturing quality of the cable by analysing the progression of the measured Low Frequency (LF) parameters. The analysis of the results can provide needed data useful for process control, product traceability or any other statistical information.

The LF parameters measuring technology provides a self-calibration. It is designed to test pairs and quads. Three measuring frequencies are integrated in the capacitance bridge allowing measurements at 12.5Hz, 125Hz and 800Hz (1000Hz), respectively.

Lynx can accept a second monoplier for double end measurements (long cables).

KEY FEATURES

- **A high precision economical solution**
 - Quality inspection, with very high accuracy
- **User friendly and easy to operate**
 - Start/Stop with one touch for each parameter individually
 - Controlled through a 6.5" touchscreen, an integrated PC, and an intuitive and user-friendly software
- **Option to measure "long distance" cables**
- **Compact**



AESA Cortailod

TECHNICAL SPECIFICATIONS

The measuring technology is designed to test pairs, triads and quads. The internal measuring bridges are self-calibrated. The capacitance bridge includes 3 measuring frequencies and is available in two versions: 12.5Hz / 125Hz / 800Hz or 12.5Hz / 125Hz / 1'000Hz. Please specify the version when ordering.

	Description	Designation for pairs	Designation for quads	Accuracy	Scale
Parameters	Conductor resistance	Ra, Rb	Ra, Rb Rc, Rd	$\pm 0,1\% \pm 10 \text{ m}\Omega$	0 - 20000 Ω
	Loop resistance	R	R1, R2		
	Resistance unbalance	DR	DR1, DR2, DR3	Computed	%, Ω
	Capacitance	C	C1, C2, C3	$\pm 0,25\% \pm 10\text{pF}$ at 800/1000 Hz $\pm 0,25\% \pm 10\text{pF}$ at 125 Hz $\pm 0,25\% \pm 50\text{pF}$ at 12,5Hz	0 – 600nF 0 – 5000nF 0 – 5000nF
	Capacitance unbalance to ground	Ei, Ea, E	Ei1-Ei3 Ea1-Ea3 E1-E3	$\pm 1\% \pm 6\text{pF}$ at 800/1000 Hz $\pm 1\% \pm 3\text{pF}$ at 125 Hz $\pm 1\% \pm 30\text{pF}$ at 12,5 Hz	0 – 20nF 0 – 200nF 0 – 200nF
	Capacitance unbalance	K	K1 – K3		
	<i>Note: The given accuracies are worst cases. Typical accuracy is twice better as specified.</i>				
Components	<ul style="list-style-type: none"> • One main unit type AESA Lynx • One monoplifier RC 2m with self-cutting knives • Two inputs for the connection of monoplifiers • Two USB outputs to connect a printer • One RJ45 allowing remote maintenance for AESA • One power cord • One operating manual 				
Supply Voltage	100 - 240 VAC / 50 - 60 Hz / Consumption: 25 W				
Dimensions (Width x Depth x Height)	390 x 390 x 250 cm, weight 12 Kg				
Article No	17.9100.0001.0				

COMPONENTS

We deliver:

- Measuring device
- One connecting device for 2 pairs or 1 quad
- ISO 17025 Certificate

AVAILABLE OPTIONS

The equipment can be completed with:

- 9000 RCKE ISO 17025 certified standards
- Additional monoplifier
- Sticker printer
- Maintenance contract

AESA proposes other specific equipment for high frequency and high voltage measurements

OVERVIEW

SYSTEM

The system consists of a central measuring unit with a monoplier to connect the cable.

The use of self-cutting knives able to handle copper diameters between 0.4mm and up to 2.5mm helps for a fast cable connection and don't require any preparation.

Robust mechanical design to facilitate maintenance and servicing operations.

LOW FREQUENCY PARAMETERS (RCKE - L)

The low frequency parameters unit is designed to measure wires, pairs, triads or quads.

The resistances R and DR are measured according to the 4 points method (Kelvin).

The capacitances CKE can be measured at different frequencies to accommodate different cable lengths.

(Please refer to our application note 'Length Restrictions in Cable Testing').

The inductances L and L/R ratio are computed from other LF parameters

The unit provides self-calibration.

Options

1. Set of of ISO 17025 certified LF standards type AESA 9000

Article No: 45.9000.0001.0

This set of "Low Frequency" standards, certified ISO 17025, allows the periodic calibration, thus proving the accuracy of the complete measurement system. The kit is composed of:

- Standard type 9001	C1,2	19,20 nF	± 0,1 %	± 30 ppM/°C
- Standard type 9002	C1,2	192,0 nF	± 0,1 %	± 30 ppM/°C
- Standard type 9003	C3	16,0 nF	± 0,1 %	± 30 ppM/°C
	K1, K2, K3	16000 pF	± 0,1 %	± 30 ppM/°C
- Standard type 9004	E1, E2, E3	12000 pF	± 0,1 %	± 30 ppM/°C
- Standard type 9005	RA, RD	192 Ω	± 0,01 %	± 2 ppM/°C
	RB, RC	1920 Ω	± 0,01 %	± 2 ppM/°C



ISO 17025 ACCREDITED



2. Additional RC monoplier 2m with start (Sub-D)

Article No: 50.0001.0071.0

Lynx accepts a second monoplier (optional) also equipped with self-cutting knives. It makes possible the simultaneous connection of both ends (Near & Far) of the cable under test with two main advantages:

- The RCKE parameters are measured without any specific preparation (short/open).
- The maximum measurable cable length can be doubled



3. Sticker printer type QL-700

Article No: 51.0500.0012.0

aesa							
Numéro Id		U72					
Opérateur		AESA					
Température		24.00					
Longueur du câble		167					
Fréquence		800					
Date		10.06.2010 16:46					
Remarque		test					
Ra	Rb	Rc	Rd	R1	R2	DR1	DR2
Ohm	Ohm	Ohm	Ohm	Ohm	Ohm	%	%
14.672	14.685	14.687	14.636	29.359	29.324	0.047	-0.171
C1	C2	K1	K2	K3	E1	E2	E3
nF	nF	pF	pF	pF	pF	pF	pF
10.414	10.399	-62	72	-104	88	-88	-90



This printer is directly connected to the USB port of the Lynx. It allows printing stickers.