



ZERA

COM5003
Product Catalog

Doc.No: 100352729
Version from: 13.02.2017

Device



COM5003 Three Phase Comparator

Inclusive adjustment and factory calibration for one mains frequency.

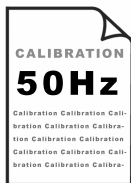
Ord.No. **10105500**

COM5003 is a highly precise Comparator which offers the opportunity to compare the tractability of the internal frequency and the AC/DC transfer voltage to external Standards. Due to the extreme good long term stability and reliable accuracy the Comparator is often used as Primary Standard at national Metrological Institutes or regional Bureaus of Standards. At accredited test labs from utilities or private holders the Comparator is frequent used to provide the traceability for the repetitive tasks of testing other portable and stationary meter test equipment.

Configuration:

- Direct current measurement up to 580 V / 160 A
- Accuracy for power/energy measurement: 0,005
- Energy measurement in four measurement modes simultaneously
- Power measurement with alternating energy direction
- Error measurement up to 4 specimen simultaneously
- Active impedance compensation for currents ≤ 100 mA
- Comprehensive functionalities by integrated Linux OS with individual design option
- Capacitive user touch screen

Factory Calibration for New Instrument



AC Factory Calibration for NEW COM5003, 50 Hz
incl. ZERA calibration report.

Ord.No. **100890828**

This article applies only for a purchase of new device.

Load points according to ZERA regulations.

Summary of used load points can be downloaded at www.zera.de.

Additional load points are subject to charges.



AC Factory Calibration for NEW COM5003, 60 Hz
incl. ZERA calibration report.

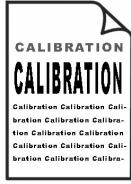
Ord.No. **100890837**

This article applies only for a purchase of new device.

Load points according to ZERA regulations.

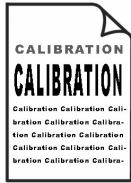
Summary of used load points can be downloaded at www.zera.de.

Additional load points are subject to charges.



**Factory Calibration
for instrument, each additional
load point for power and energy**

Ord.No. **100007093**



**Factory Calibration
for instrument, each additional
load point for current and/or voltage**

Ord.No. **100007094**

DAkKS DKD-Calibration for Instrument



AC-DKD-Calibration 50 Hz for COM5003
• Incl. DKD calibration certificate acc. IEC 17025

Ord.No. **100519689**

Load points according to ZERA regulations.
Summary of used load points
can be downloaded at www.zera.de.

Additional load points are subject to charges.

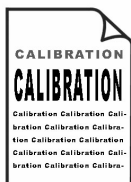


AC-DKD-Calibration 60 Hz for COM5003
• Incl. DKD calibration certificate acc. IEC 17025

Ord.No. **101173903**

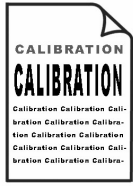
Load points according to ZERA regulations.
Summary of used load points
can be downloaded at www.zera.de.

Additional load points are subject to charges.



**DAkKS DKD-Calibration (acc. IEC 17025)
for instrument, each additional
load point for power and energy**

Ord.No. **100006893**



**DAkKS DKD-Calibration (acc. IEC 17025)
for instrument, each additional
load point for current / voltage**

Ord.No. **100006894**

Power Cords for Mains



**Power cord "Class I grounded plug type E/F
to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x class I grounded plug type E/F (CEE 7/7), straight
- 1x socket IEC 60320 C13

Ord.No. **M00481006**



**Power cord "Class I grounded plug type E/F
to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x class I grounded plug type E/F (CEE 7/7)
- 1x socket IEC 60320 C13, angled

Ord.No. **M00481004**



Power cord "Plug type B to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x plug type B
- 1x socket IEC 60320 C13

Ord.No. **X00006459**



Power cord "Plug type I to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x plug type I (AS/NZS 3112, 3-pin)
- 1x socket IEC 60320 C13

Ord.No. **X00006460**



**Power cord "Plug type G (BS 1363)
to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x Plug type G (BS 1363)
- 1x socket IEC 60320 C13

Ord.No. **X00009832**



**Power cord "Plug type D (BS 546)
to IEC 60320 C13", 1.8 m**

For supply via power socket.

- 1x Plug type D (BS 546)
- 1x socket IEC 60320 C13

Ord.No. **100929900**

Current and Voltage Cables (see also Special Accessories)



Laboratory cable with stackable plug, red, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00007597**



Laboratory cable with stackable plug, yellow, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00006907**



Laboratory cable with stackable plug, blue, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00007598**



- Laboratory cable with stackable plug, black, 2.0 m**
Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **X00006910**

- Current cable up to 160 A, 2.0 m,**
- 1x 8 mm socket
 - 1x 10,5 mm cable lug
 - Lead cross section: 50 qmm
 - Phase colours:
Please specify the colour code when ordering. The cables will get a corresponding coloured marking.
21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white

Ord.No. **1011942xx**

xx please select the colour



- Connection-Adapter (8,5mm lug)**
Lockable adapter plug to connect cables with cable lugs to the 8 mm plug system of the instrument.
Designed as
- 8 mm plug
 - 8,5 mm screw terminal

Ord.No. **101027920**

For each phase 1 adapter is required.



- Connection-Adapter (6 / 4 mm plug system)**
Lockable adapter plug to connect cables via 6 / 4 mm plugs the instrument.
Designed as
- 8 mm plug
 - 6 / 4 mm socket system

Ord.No. **101155610**

For each phase 2 adapters are required.



Current cable up to 120 A, on double-side socket, 2.0 m,

- 2x 6 mm socket
- Lead cross section: 35 qmm
- Phase colours: Please specify the colour code when ordering. The cables will get a corresponding coloured marking.
21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white

xx please select the colour

Ord.No. **1011979xx**



Plug-in Adapter Pin 3 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 3 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120115**



Plug-in Adapter Pin 4,2 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 4,2 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120112**



Plug-in Adapter Pin 5,5 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 5,5 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120108**



Plug-in Adapter Pin 6 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 6 mm-**pin for socket system**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120109**



Plug-in Adapter cable lug 8,5 mm closed

For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 8,5 mm-**lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **100640906**



Plug-in Adapter cable lug 10,5 mm closed

For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 10,5 mm-**lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **100640907**



Current cable up to 120 A, double-side socket, 1.0 m, for connection between source and reference meter.

- 2x 6 mm socket
- Lead cross section: 35 qmm
- Phase colours: Please specify the colour code when ordering. The cables will get a corresponding coloured marking.

21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white

Ord.No. **1012006xx**

xx please select the colour

Impulse Sensor (see also Special Accessories)



TK118, scanning head

For detection of LED signals of electronic meters.

- Fixing: Via provided suction cup or via optionally available stretchable holding device for scanning heads TK326/TK118.

Ord.No. **100201900**



TK326-1, scanning head without holding device

For detection of rotor disc markings on Ferraris meters and LED signals on electronic meters.

- Fixing: Via stretchable holding device for scanning heads TK326/TK118.

Ord.No. **101064900**



Holding device for scanning head TK326/ TK118

Stretchable holding device to fix the scanning head TK326 or TK118 at the electricity meter.

- Maximum wingspan: 19.0 cm.

Ord.No. **100319600**



Connection cable for scanning head input (SC) on ZERA instruments with RJ10 socket

The spiral cable connects TKxxx and K121 to the instrument.

- 2x Modular connector RJ10
- Length: 1.00 m / expanded: 6.00 m

Ord.No. **Z10353027**

Connectors (see also Special Accessories)



Accessories bag with connection adapters (COM5003)

01 Accessories bag	100214400
04 Spring clip	100606750
10 Adapter for terminal blocks	X00004961
06 Adapter with cable lug	X00004963
04 4-mm test clips (crocodile clips), slim	X00009329
06 4-mm test clips (crocodile clips), wide	X00010059
10 Fuse, 3.15 A 5 mm x 20 mm, time-lag	M00460252

Ord.No. **100023743**

Transport (see also Special Accessories)



Transport Case 1 with wheels for COM5003; WM3000; WM1000

Ultra High Impact Copolymer Polypropylene case with inlet from rigid foam, designed for

- 1 Instrument
- Accessories

Overall dimensions: 80,8 cm x 58,7 cm x 48,4 cm (H x W x D)

Ord.No. **100023908**

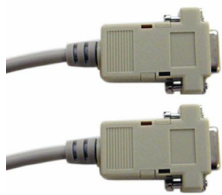
Standard Accessories (see also Special Accessories)



Adapter "USB to RS232" (32/64 bit), 1.5 m

For use with an external PC/Notebook (32/64 bit) with WINDOWS OS (XP, VISTA, 7, 8).

Ord.No. **100755200**



Interface cable, RS232, crossed wired (null modem cable)

Connection cable

- 2x D-Sub socket, 9-pin
- Cable length: 3.00 m

Ord.No. **X00010844**



Patch cable RJ45, 1 m

Note when using: You need two cable for the connection of PC.

Ord.No. **100161606**



Patch cable RJ45, 3 m

Ord.No. **100161607**



patch cable RJ45, 5,00m

Ord.No. **100161603**



Coaxial cable with BNC plug, 3 m
with BNC plugs on both cable sides

Ord.No. **Z09548330**

Documentation



Complete documentation as pdf files on USB Stick

Ord.No. **100090716**



Documentation COM5003

01 Operation manual COM5003 (german) 100928320
01 Interface Description SCPI (english) 100928325

Ord.No. **100928420**



Documentation COM5003

01 Operation manual COM5003 (english) 100928321
01 Interface Description SCPI (english) 100928325

Ord.No. **100928421**

Special Accessories (Current and Voltage Cables)



- Laboratory cable with stackable plug, green, 2.0 m**
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **X00006908**



- Laboratory cable with stackable plug, violet, 2.0 m**
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **X00006909**



- Laboratory cable with stackable plug, brown, 2.0 m**
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **100414100**



- Laboratory cable with stackable plug, grey, 2.0 m**
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **100739800**



- Laboratory cable with stackable plug, white, 2.0 m**
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
 - Lead cross section: 2.5 qmm

Ord.No. **100662500**

Special Accessories (Connectors)



Cable bridge, black, 0.25 m

Ord.No. **X00003092**



Connecting terminals for current

- Insulating screw joint for flexible wire connection max cable size 1,5 ... 16 mm²
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00011923**



Adapter for terminal blocks

- Connection via insulated flexible copper conductor.
- Socket: 4 mm rigid socket in insulator, made of brass, accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004961**



4 mm plug adapter (banana plug)

- Plug: 4 mm spring-loaded plug, made of brass.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004962**



4 mm cable lug adapters

- Cable lug adapter, made of brass for permanent installation, e. g. for connecting screw terminals.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004963**



Spring clip

- Connection via spring clip.
- Socket: spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100606750**



Test plugs for terminal blocks

- Plug: 4 mm test plug, made of brass with spring-loaded plug for connecting into rail mounted terminals with 4 mm sockets.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100102400**



4 mm test clips (crocodile clips), wide

- Crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00010059**



4 mm test clips (crocodile clips), slim

- Small, slim crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00009329**



Accessories bag without content DIN A6, material: polypropylene

Ord.No. **100214400**

Fuse, 3.15 A, 5 mm x 20 mm, time-lag

Ord.No. **M00460252**



Special Accessories (General)

Adapter UHF-BNC

Ord.No. **M00466008**

To connect cables with UHF plug to the RMM300x or COMx003.

- 1x BNC-Stecker
- 1x UHF-Buchse



Pulse shaper K 129

Ord.No. **100311100**

The adapter K129 can be connected between the TTL-output and the Fin-input. The TTL-level will be converted into an Open-Collector-output. The necessary power supply (> 3.4 V / approx. 40 µA) will be provided by the input, resp. output signal.



Pulse Scaler K133

Ord.No. **100453200**

The adaptor K133 is for the reduction ratio (1000:1, 100:1, 10:1, 1:1) of working standard pulses. Input pulse active 2 ... 24 V or open collector, max 350 kHz. Output open Collector with pullup to 12 V.



Readjustment (only for Service)

AC-Adjustment of COM5003

Ord.No. **101049020**

Note: Calibration and Calibration report are not included.



Factory Calibration (only for Service)



**AC Factory Calibration for
COM5003, 50 Hz**
incl. ZERA calibration report.

Ord.No. **100890841**

Load points according to ZERA regulations.
Summary of used load points
can be downloaded at www.zera.de.

Additional load points are subject to charges.

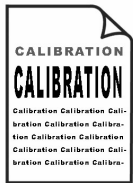


**AC Factory Calibration for
COM5003, 60 Hz**
incl. ZERA calibration report.

Ord.No. **100890842**

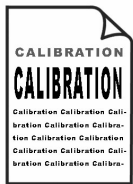
Load points according to ZERA regulations.
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**Factory Calibration
for instrument, each additional
load point for power and energy**

Ord.No. **100007093**



**Factory Calibration
for instrument, each additional
load point for current and/or voltage**

Ord.No. **100007094**

ZERA GmbH
Hauptstraße 392
D-53639 Königswinter
Phone: +49 (0)2223 704-0
Fax: +49 (0)2223 704-70
E-mail: zera@zera.de
Internet: www.zera.de
Managing Directors:
Rainer Otto / Horst Wächter
Headquarter: Königswinter

Commerzbank Bonn
IBAN: DE29 3804 0007 0113 3131 00
SWIFT (BIC): COBADEFF380

Kreissparkasse Köln
IBAN: DE15 3705 0299 0001 0784 92
SWIFT (BIC): COKSDE33

HRB 7073 Siegburg
VAT-IdNo. DE 218 515 479
WEEE-Reg.Nr. DE 53879641

Notes on using the product catalogue

When ordering, always state the order number.

Pictures can differ from original product.

We follow ZVEI terms of delivery, see on www.zera.de