brähler

DIGIVOTE®III

VD30 and TR30 (Hardware)

Hardware operating instructions
Version 1.2.1

Should you have some questions regarding this manual please contact:

Brähler ICS Konferenztechnik

International Congress Service AG

Auf der Alten Burg 6

D-53639 Königswinter, Germany

T +49 2244 930-100

E sales@braehler.com

You will find further information about our products on the Internet at:

www.braehler.com
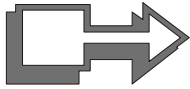
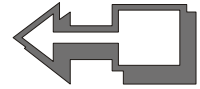Operating instructions DIGIVOTE®, BGE-DIGIVOTEIII.doc

Sep-09

CAUTION

DANGER OF ELECTRIC SHOCK
DO NOT OPEN DEVICES!

Do not open housing with mains cable connected.

Maintenance operations may only be done by qualified personnel.

Our equipment and installations have been built and tested according to the latest state of the art. In general conditions they do not require any special maintenance.

However, please be aware of the following:

- ☑ **Positioning** - secure and stable position of the equipment
- ☑ **Ventilation** - operate equipment with proper ventilation. Avoid heat sources such as heating radiators etc.
- ☑ **Mains connection** – pass all power cables so that they will not be damaged
- ☑ **Cable connections** - avoid trip-traps
- ☑ **Liquids** - avoid penetration of liquids into the housing
- ☑ **Power sockets** - operate equipment only with power sockets that are connected to ground according to the relevant specifications and regulations

> *Warning: Never expose equipment to rain or humidity*

Rough handling of the equipment, such as strong shocks or vibrations, may result in damages. Inappropriate handling and storage, which does not conform to the operating instructions, may also lead to equipment damages.

Content

About this manual

Symbols

The meaning of the symbols and fonts used in this manual:

Indicates an important note, if not minded, the functionality of the unit, the security of your data, or your health are put at risk.

Supplementary information, remarks, and tips follow this symbol.

Text which follows this symbol describes activities that must be performed in the order shown.

Texts in **bolded** letters require your special attention.

Important remarks

For customers in the EU and in the USA

The equipment is complying with the standards of the CE regulations. These standards are specified to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment can radiate radio frequency energy and if not installed and used according to the user manual it may cause harmful interference to radio communications. Any changes or modifications which are not explicit approved in this manual could void your authority to operate this equipment.

> ### *The equipment must be connected to ground!*

Safety

Check that the operating voltage of the unit is identical with the voltage of your local power supply. If a voltage conversion is required, consult your BRÄHLER ICS dealer or qualified staff.

Should any liquid or solid object fall into the housing, unplug the unit and let it check by qualified staff before further operations. Unplug the unit from the power outlet or set the mains power switch to OFF if it's not used for several days. To disconnect the cord, pull it out holding the plug. Never pull the cord itself.

Installation

Allow proper air circulation to prevent internal heat accumulation. Do not place the unit on a surface that may block the ventilation holes.

Do not install the unit in a location near heat sources or in a place exposed to direct sunlight, excessive dust, humidity, mechanical vibration or shock.

Do not install the unit when it is changed from cold outside to warm inside. In this case wait approx. 1 hour until temperature is even-tempered.

Cleaning

To keep the housing in its original condition, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use organic solvents such as thinners or abrasive cleaners as these will damage the cabinet.

Repacking

If possible save the original shipping carton and packing material; they will become useful if you ever have to ship the unit. In this case please keep the manual and the unit together. For maximum protection, re-pack the unit as originally packed by the factory.

If not supplied with the equipment, a complete transport and storage box system is available from BRÄHLER ICS. We recommend using this system for long-term protection and care.

General

Please keep this manual together with the DIGIVOTE® equipment. If you pass on the unit to other parties, please include this manual.

Please read the manual carefully, taking special care when you see this symbol as it indicates important information!

This product is conforming to the rules of the following European directive: 73/23/EEC, 2004/108/EC and 99/5EC

The warranty will expire, if you cause defectives by inappropriate use or handling of the unit.

Although DIGIVOTE® is a simple and reliable system, it is recommended, that the BRÄHLER ICS® advisory service is consulted for planning, installation and commissioning.

In no case it is allowed to charge voting units with disposable batteries inside!

Introduction

Congratulations on buying DIGIVOTE® equipment from BRÄHLER ICS!

DIGIVOTE®III is the successor to the successful DIGIVOTE® 2000 system, and sets new standards for intelligent response systems.

DIGIVOTE®III allows you to cover any area requiring feedback from participants of your event, from traditional voting via information surveys and knowledge verification to interactive game shows. The system offers both traditional voting modes like yes/no/abstain or for/against, using a variety of parliamentary rules and differentiated opinion formers

The real strength of the DIGIVOTE®III is its interaction capability. For example the speaker can actively include his listeners in the presentation. Surveying particular listener information can locate target groups or set focal points. Spontaneous querying from the public, arguments and lecture content within the presentation can be assessed, thus leading to a dynamic, interactive type of lecture. The individual collection of voting times is particularly applicable to quiz shows.

DIGIVOTE®III system components

A complete DIGIVOTE® voting system also may contain the following components:

Wireless voting keypad VD30 (to participate in voting)

TK50-DVIII Storage and charging tray for 50 voting units VD30

Transponder TR30 (controller for voting procedure)

DIGIVOTE® III Software

Diverse cables, also for multi transponder mode

System components

Voting Unit VD30

The wireless voting unit VD30 is the successor of the proven VD20 voting unit and is based on 30 years of experience at BRÄHLER ICS in the field of voting technology.

10 digit keys plus decimal and minus key allow any numeric data input, not only to choose from given options. A CLEAR button works as backspace or clears the entire input. Depending on transmit mode each input is transmitted directly or only after confirming with the ENTER key. The successful transmission is visualized on the LC-Display. A build in timer function allows checking, who's first, especially useful for game show applications.

A backlit graphical LCD allows display of both numerical and alphanumerical characters, readable in the dimmed conference environment and in direct sunlight.

The transportation tray TK50-DVIII carries 50 VD30 keypads and recharges them. Even there the keypads can respond to radio communication, can be checked for battery status and e.g. be set all at once to a different radio channel for the next event, much more convenient than doing this one by one individually.

Transponder / Controller TR30

The transponder TR30 processes all DIGIVOTE®III VD30 voting units responses and communicates these to the PC software. It handles more than 10,000 keypads on one single radio channel. On the 433 MHz ISM band, 5 different channels can be selected to allow separate systems to operate independently or to increase polling speed by collecting responses in different channels in parallel. A special RF channel is reserved for configuration and maintenance purposes of keypads. The transponder can operate USB powered in a small classroom environment or through RS232/485 serial communication, where long cable runs to the PC control are necessary. The rugged metal construction allows desktop operation as well as tripod or rig mounting. An optional build-in battery prevents data loss in case of power failures.

Installation hints

Before connecting the transponder to the PC you have to install the driver delivered on the DIGIVOTE® Setup CD. Insert the CD in your drive and follow the instruction when starting the Computer. See also the software manual DIGIVOTE® III.

Operation with one Transponder

The transponder TR30 is connected via the cable TR30-USB/5 (08.2410.5 - see Appendix) to a USB port on your computer.

Alternative connection is possible with cable TR30-232/10 at the serial computer port. The power supply NT-TR30 (19.0853.X6) is mandatory in connection with serial interface and charging the optionally rechargeable battery respectively.

The connection of the power supply is done by a XLR-connector – lockable.
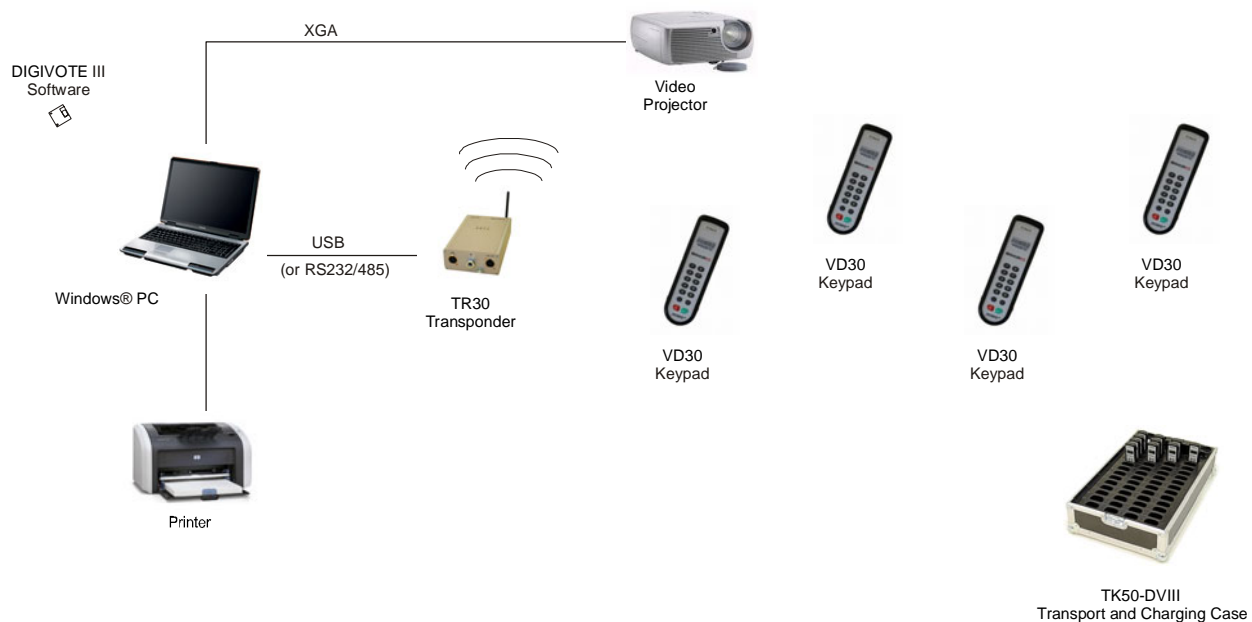
The operating range between the transponder and the voting unit is up to 50m (radius), depending upon the specific location and the building conditions.

Note: To avoid interference with reception or operation, position the transponder at a minimum distance of 3m from the computer or the monitor or other electromagnetic sources of interference.

The maximum distance between PC and transponder depends on the way of data connection:

With USB: not more than 5 metres
with RS232: maximum 50 – 100 meter
with RS485: maximum 1000 meter

The wireless voting units are powered by rechargeable batteries. The charge level is shown on the display. The battery tray on the back of the voting unit takes up to three rechargeable batteries model LR03 (AAA).

Note: When you replace the original batteries please take care of a proper polarity of the rechargeable batteries as indicated by the insignias on the bottom of the battery container.

Operation with two Transponders TR30
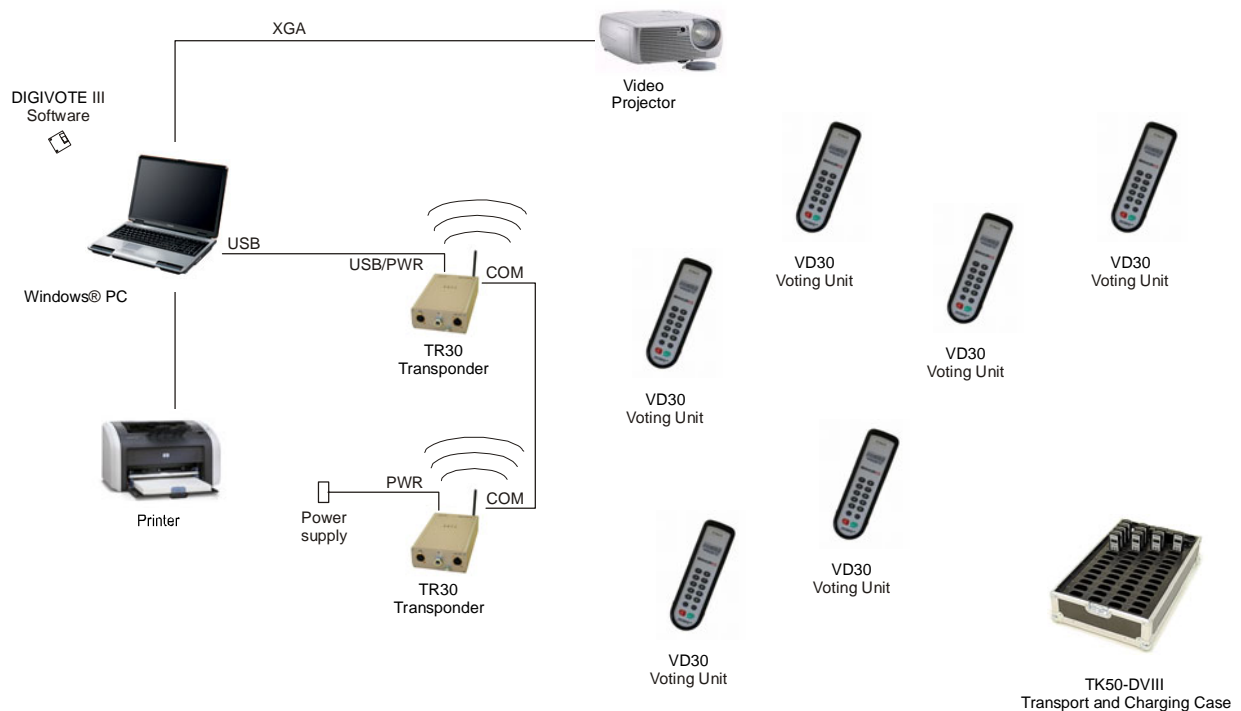
The distance between two transponders may be up to 1000 meters. The transponders are attached via a special cable to the COM interface.

Operation with more than two Transponders TR30

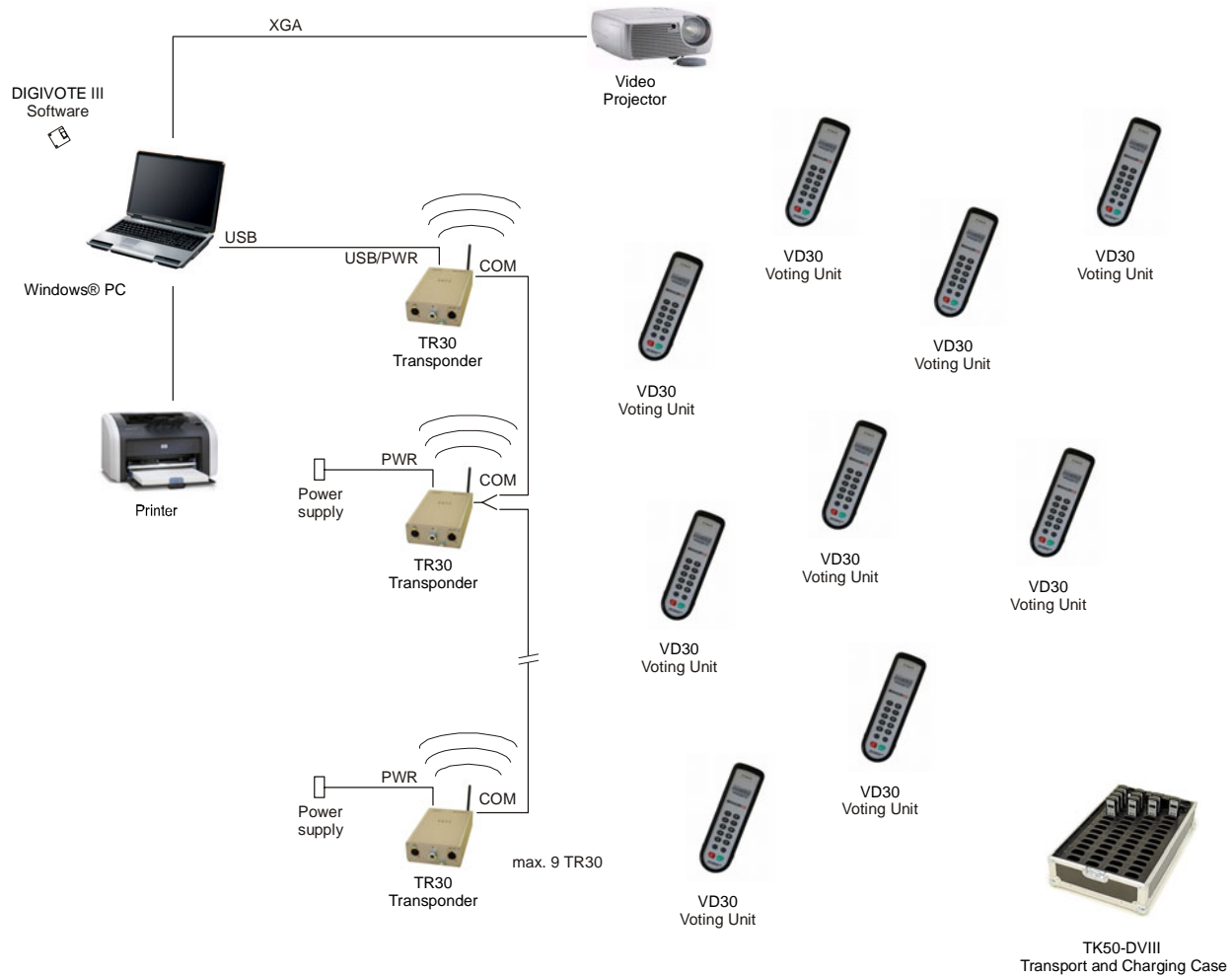This configuration allows a total distance about 1000 meters. The "inner" transponders are connected by means of special adapters. If required our planning department will assist you.

Usage of projectors

To present the questions and results an adequate projector must be available, for example an LCD projection panel for a well performed overhead projector or a common projector or monitor that is suitable for data projection (video standards: SVGA (800x600), XGA (1024x768)). If you use a projector which is not suitable for data projection or if you intend to simultaneously support several presentation media, further interface adapters are required. Do not hesitate to contact us for more detailed information.

Short Instructions TR30
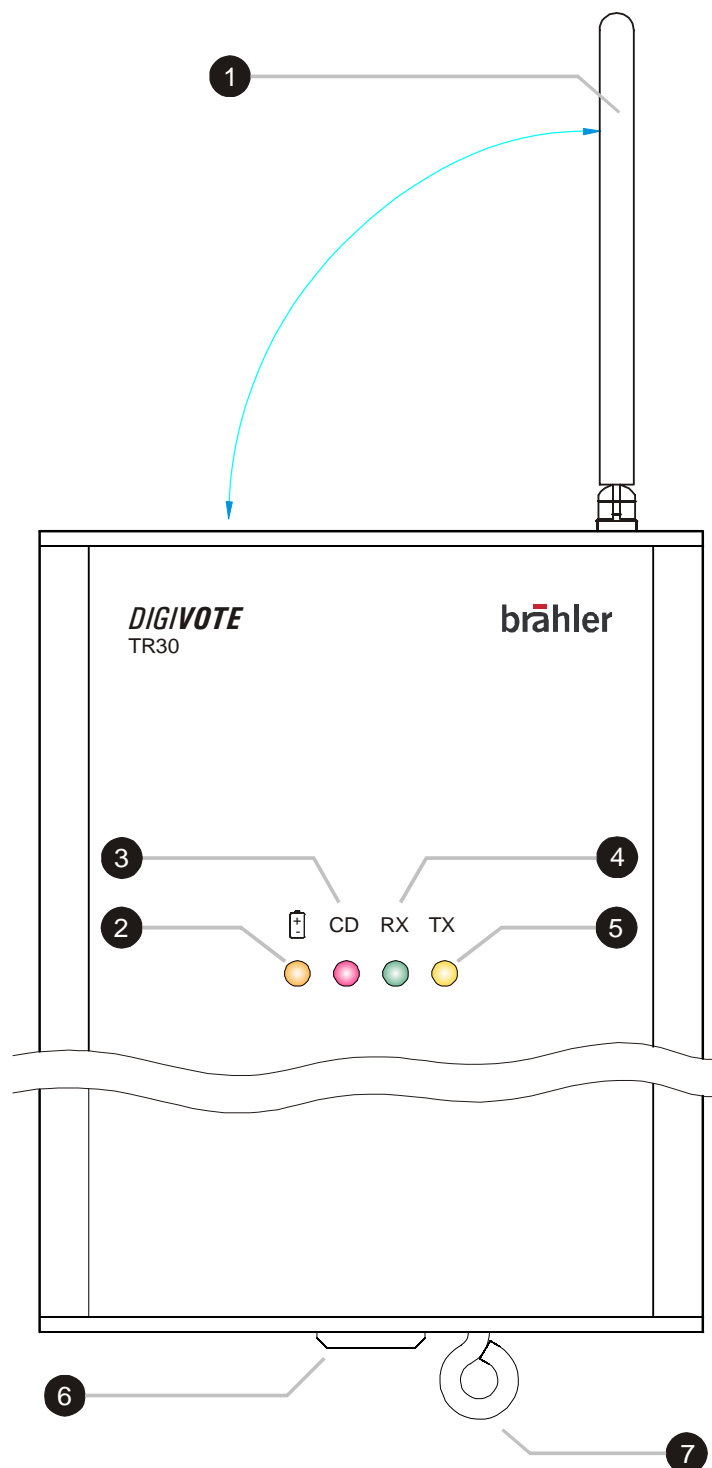
1   Antenna (swivel-mounted)
2   LED (orange) for status of rechargeable battery as option (not relevant for single
            operation mode with USB connection)
3   LED (red) for carrier detection
4   LED (green) for reception activity
5   LED (yellow) for transmission activity
6   tripod mounting screw
7   Safety eye (obligation in many countries)
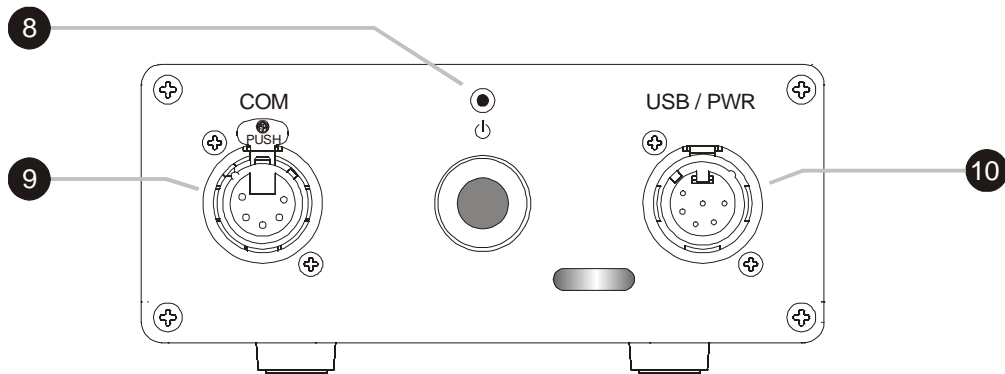
8   On/Off key - The switch-key is attainable only with a pointed article, so that the switch-
           key cannot be used by mistake.
           To switch off the transponder please press and hold the push-button longer than 4
           seconds.
           For control: LED CD, RX and TX are off.

9   Connector to Control PC via RS232 or RS485 (XLR male 5 pin),
           Connector for adapter cable in case of multi transponder mode

10   Connector to Control PC via USB (XLR female 6 pin),
           Connector for power supply in case of RS232 / RS485 and multi transponder mode

Short Instructions VD30
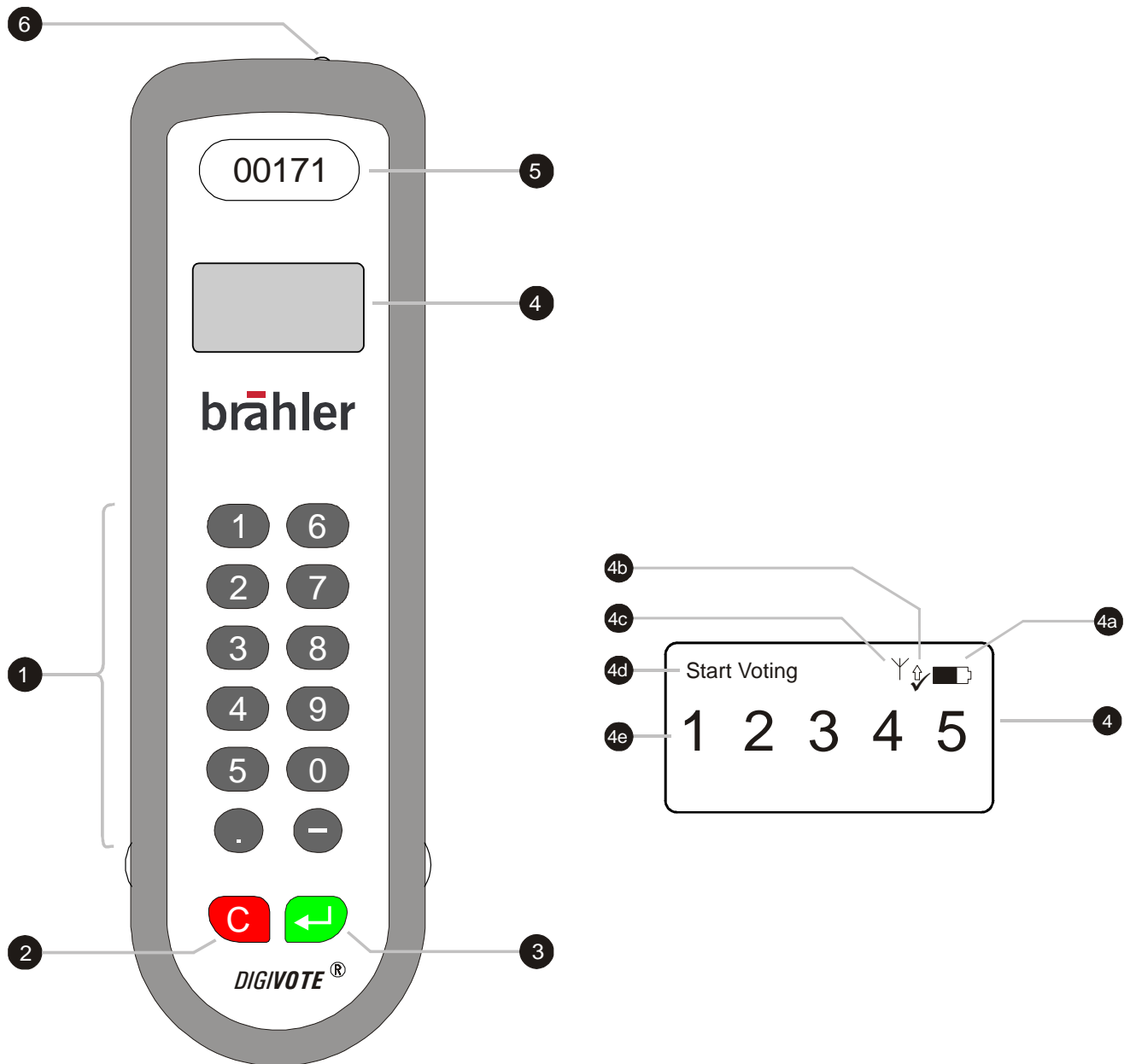
1   Voting push-buttons, variable function
2   Clear key
3   Special push-button (see Operating Instructions)
4   LC Display
4a   Status indication of rechargeable battery
4b   Status of transmission: transmitting of voting / confirmation of voting transmission
4c   Radio contact to transponder
4d   Status message (e.g. to start voting)
4e   Displaying key input
5   ID-Number of the voting unit
6   Charging status of rechargeable battery (see manual TK50-DVIII)

Technical data

This products complies with international standards **IEC914** and **IEC61603-3**

VD30

Wireless Voting Unit using radio technology
• Frequency: ISM band 433 MHz
• different radio channels selectable
• more than 10000 keypads per RF channel
• polling speed up to 200 keypads per second per channel, depending on voting mode
• backlit LCD, 96 * 32 pixel
• 10 digit keys, 4 function keys
• power supply 3 x AAA NiMH rechargeable batteries
• indicator for radio reception
• indicator for battery status
• dimensions: 165 x 48 x 25 mm
• weight incl. batteries: 140g

TR30

Frequency

• 433 MHz ISM band
• different RF channels selectable
• separate configuration channel

Range

• The coverage is designed for up to 50 meter, depending on environment conditions.
• A room's geometry and RF propagation characteristics will influence actual range experienced.
Elevating the base station often results in a performance advantage
• Speed
Over 200 keypads/sec. depending on voting mode and configuration

Power Supply

• via USB from user PC
• optional power and charging adapter for use with serial cable

Connectors

• USB, optional power supply, XLR 5-pin socket, male
• RS232/485 serial port, XLR 5-pin socket, female

Indicators

• RX, indicates received signal

• TX, indicates transmitted signal

• CD, carrier detect, indicates frequency blocking

• BAT, indicates status of optional build-in battery

Antenna

• fixed mount, foldable antenna

• slewable for optimum performance

Housing

• Aluminium, anodized

• Color: silver

• 3/8" bushing for mounting

• fastening eye for safety rope

Dimensions

(220 x 135 x 55) mm, without antenna

Weight

1.1 kg

Accessories (not included in delivery)

SW-DVIII DIGIVOTE III Software (part. no.: S4.1111)

NT-TR30 Power Supply - powers transponder when used with RS232/485 connector (part. no.: 19.0853.X6)

TR30-USB/5 Connection Cable for USB connection (part. no.: 08.2410.5)

TR30-232/10 Connection Cable for RS232 connection (part. no.: 08.2145.10)

X5704 Rechargeable Battery (part. no.: 12.1110)

Trouble shooting

Error description	Error cause	Error solution
Voting unit does not indicate the connection	Transponder TR30 is not connected to the PC	Check the connection to the PC
	Distance to TR30 is too long	Reduce the distance to the transponder
	Software configurations are not correct	See software manual
Voting unit does not react by pressing any key	Rechargeable batteries are discharged	Insert the voting unit in the TK50-DVIII for charging (minimum a few hours)

Annex Cable diagrams

Connection cable PC (USB) ← → Transponder TR30

1 ●	blk	sw	GND
2 ●	wht	ws	Data -
3 ●	grn	gn	Data +
4 ●	red	rt	+UB
5 ●			nc
6 ●			nc

OUTPUT Voltage = 5V
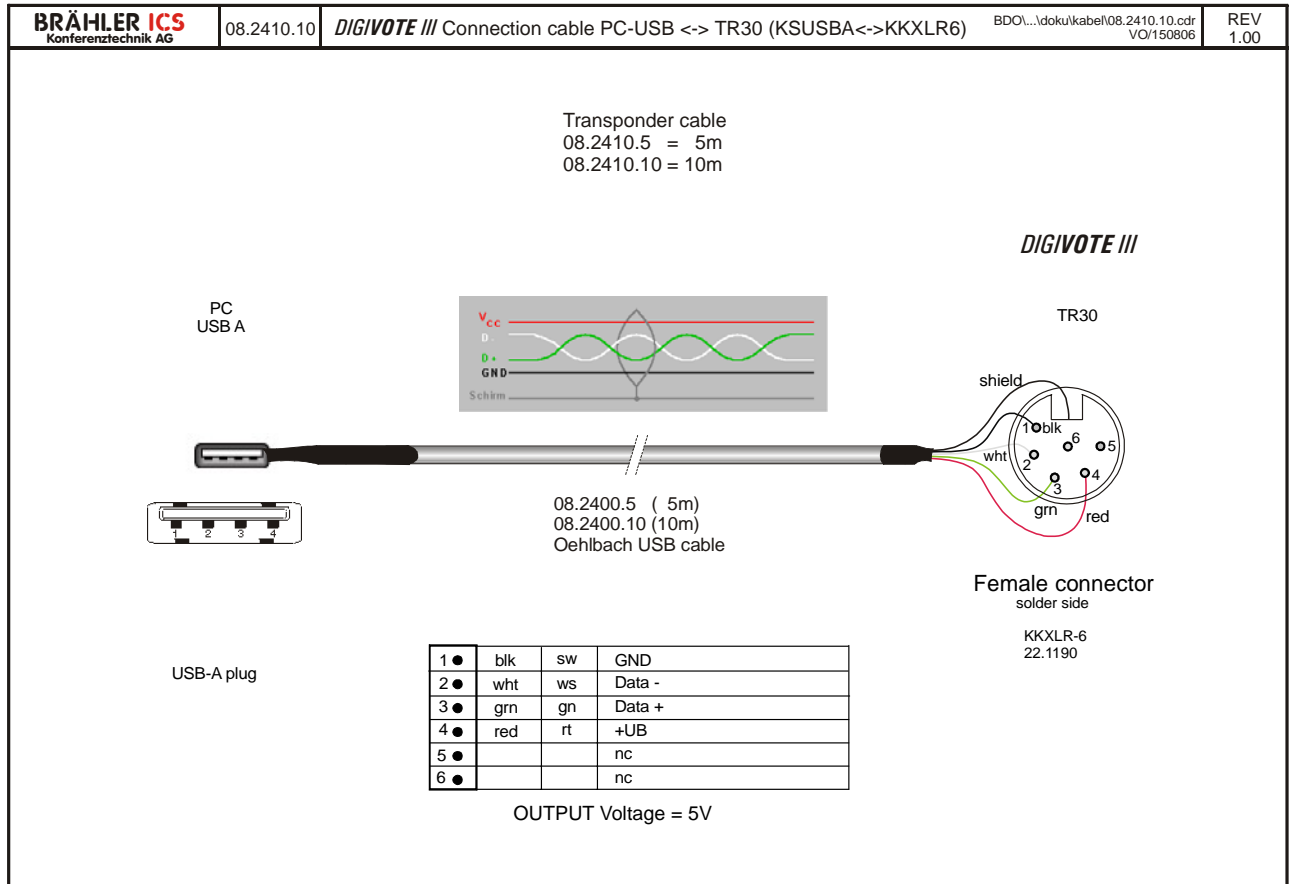
Connection cable PC (RS232) ← → Transponder TR30

| BRÄHLER ICS Konferenztechnik AG | 08.2145 | DIGI*VOTE* III Connection cable PC-RS232 <-> TR30 (KKDSUB9<->KSXLR5) | BDO\...\doku\kabel\08.2145.cdr VO/040806 | REV 1.00 |

DIGI*VOTE* III

PC RS232

gry
wht
brn

5 4 3 2 1
9 8 7 6

22.9470
22.9490

female cable connector
(solder side view)

DB9 plug

13.6230.1 A5/1

08.2145.3   = 3m
08.2145.10 = 10m
08.2145.25 = 25m

TR30

shield

brn

gry

wht

5 1
4 3 2

22.1160

male cable connector
(solder side view)

KSXLR-5
nickel

Connection diagram Wall Power supply

BRÄHLER ICS	19.0853.X6	...Doku\Netzteile\19.0853X6.cdr 060803 VO	REV 1.00

FRIWO 1812037

19.0853

mains
100-240V~

Mains adapter (plugable)
depends on country

OUTPUT 5V=/2,4A

1 ●	blk	sw	GND
2 ●			nc
3 ●			nc
4 ●			nc
5 ●	wht	ws	+UB
6 ●			nc

OUTPUT Voltage = 5V

blk

wht
(also: marked wire)

Female connector
solder side

KKXLR-6
22.1190
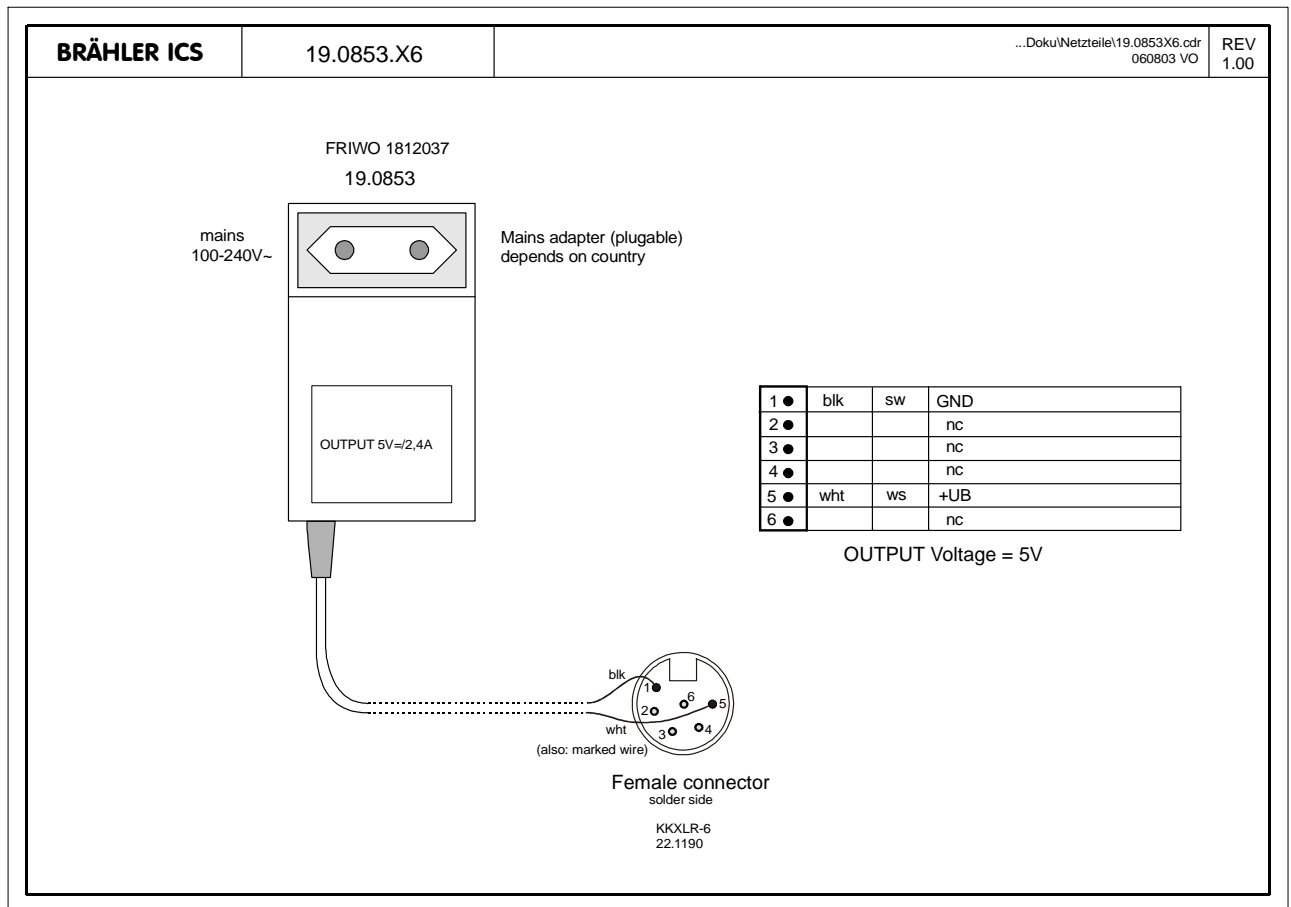
Warranty

BRÄHLER ICS allows for the DIGIVOTE® products a warranty period of 24 months, from date of delivery, for faulty materials and/or manufacturing faults. The warranty does not include rechargeable or disposable batteries, misuse, negligence, breakage, wrong installation, use outside the existing rules and any unauthorised modifications.

BRÄHLER ICS rejects any guarantee, if the safety label with the serial number is removed.

BRÄHLER ICS declares itself to agree to exchange or repair defective components due to faulty materials or manufacturing, dependent on following procedure:

1) The client declares that the fault is not due to empty, discharged, wrongly inserted, or faulty batteries.

2) Before sending the faulty product back to the company, please obtain an RMA (Return Material Authorisation) number. An RMA can be obtained by contacting us at the details below

Phone   +49 (0) 2244 930-100
or email: sales@braehler.com

3) You may send the defective product free of charge to (refer to the service form):

  BRÄHLER ICS Konferenztechnik
  International Congress Service AG
  Auf der Alten Burg 6
  D-53639 Königswinter
  Germany

4) Should it turn out that the fault was caused through inattentiveness or inappropriate use, the service and shipping charges will be added to the clients account.

Service form

Material return shipments for repair-, service-, or guaranty purposes please send to:
BRÄHLER ICS Konferenztechnik AG, Auf der Alten Burg 6, D-53639 Königswinter, Germany
Phone +49 (0)2244 930-100, Fax +49 (0)2244 930-450

Dear customer,
Please ask our sales staff for the **RMA number** *(Return of Material Authorization)*.
Without RMA number a treatment is not possible!
Please always include this service form, fully completed, with any complaint or repair wish you may have. Please note that only returns with the proper and complete paperwork can be dealt within time.
A detailed fault description will reduce costs and period of repair.
Please contact us before you return equipment in order to find the most efficient way of sending.

RMA number: _____

Article description: _____ Serial no.: _____ Code: _____

Delivery note no.: _____ Invoice no.: _____

Reason for return/Fault description:

_____

_____

_____

Company: _____

Contact person: _____

Phone: _____ Fax: _____

Notes/Comments:

_____

_____

_____

Transport damages have to be reported immediately to the responsible forwarding agent.

Remarks for Non-EU customers:
Please add to each return a delivery note or a proforma invoice, addressed to Brähler ICS AG, Königswinter,
with following statements:
- Reason for return (repair or credit note)
- Exact declaration of the goods, exact no. of pieces, article no. / model, serial no.
- Price which was invoiced by us, better our invoice no. with date

Return shipments from Non-EU countries have to be sent **either by air freight** to Cologne airport, to the attention of:

Calenberg Oversea Logistics, Mrs. Taxacher, Welser Str. 8, 51449 Köln, Tel: +49 2203 3592-838

or by the following courier services:

DHL Express, Federal Express, TNT Worldwide Express, UPS Express

Please do not use any other courier service, because only the four companies mentioned above perform return shipments.
To enable quick and cost efficient customs clearance, kindly take care that the airway bill mentions
a) 'return for repair' as well as
b) the customs tariff code number of the goods (which will be advised by us together with the return of material authorization number)

Any expenses (duties and taxes) incurred by deviant handling will be charged to the sender.

Declaration of Conformity

DECLARATION OF CONFORMITY

I hereby delcare that the product:

DIGIVOTE III
_____
(Name of product, type or model, batch or serial number)

satisfies all the technical regulations applicable to the product within the scope of Council Directives 73/23/EEC, 2004/108/EC and 99/5/EC:

EN 300 220-1,-3 / V2.1.1 (2006-04)
EN 301 489-1 / V1.6.1 (2004-12) ; EN 301 489-3 / V1.4.1 (2002-08) ;
EN 60950-1 / 2006
EN 50371 / 2002
(Titles of regulations, standards, etc.)

All essential radio test suites have been carried out.

MANUFACTURER or AUTHORISED REPRESENTATIVE:
- Address:

Brähler ICS Konferenztechnik International Congress Service AG
Postfach 3264
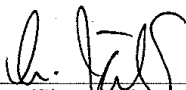53627 Königswinter, Germany

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, his authorised representative:

- Point of contact:

Brähler ICS Konferenztechnik International Congress Service AG;
E-Mail: info@braehler.com

Königswinter, 11.05.2007
_____
(Signature)

Michael Brähler; Executive Director

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