

ConST

285Ex 防爆智能压力校验仪 说明书



[版本号: 2506V02]

安全使用的特殊条件

警告：

- ◆ 请勿在爆炸性环境中打开设备外壳；
- ◆ 请勿在危险区域为电池充电；
- ◆ 仅使用核准的电池，详见防爆说明。

注意：

- ◆ 设备需要被保护防止受到高能冲击；
- ◆ 请勿触摸非金属外壳或仅触摸绝缘材料；
- ◆ 设备中使用的电池需要具有相同制造商、相同型号和相同电化学系统；
- ◆ 应用于 PCB 板的保形涂层的制造商声明符合 IEC60664-1 和 IEC60664-3 的要求；
- ◆ 温度：(-20~50)℃；
- ◆ USB 接口仅可在危险环境以外使用；
- ◆ PX (侧面航插) 仅可与压力模块 CDPX-Ex 连接，用于外部压力模块的连接线和软管由绝缘材料制成，因此终端用户在材料选择和安装过程中应考虑静电放电风险；
- ◆ 金属部件 (仅紧固件) 的最大电容为 110pF，终端用户应考虑此风险以进行合适的应用；
- ◆ 电压不超过 250V 时，Type-C USB 端口和 DC 充电端口无需额外的输入能量限制 (内部 OVP/OCP 设计符合 IEC 60079-11)；
- ◆ 在危险区域内不要移除保护设备的橡胶套；
- ◆ 需要严格、完整地按照防爆说明遵守不同型号的各外部测量端口的本安参数；
- ◆ 以下是本安设备与相关设备或其他本安设备之间的本质安全电气系统：

项目	本安接口	外部测量设备	系统	备注
设备分类	IIC	IIC	IIC	Uo≤Ui Io≤Ii Po≤Pi Co≥Ci+Cc Lo≥Li+Lc
防护等级	ia	ia	ia	
温度级别	T4	T4	T4	
环境温度	(-20~50)℃	(-20~50)℃	/	
电压	Uo	Ui (30V)	/	
电流	Io	Ii (100mA)	/	
功率	Po	Pi (0.75W)	/	
线缆参数	/	/	/	
电容	Co	Ci	Cc	
电感	Lo	Li	Lc	
L/R 比率	/	/	/	
接地	绝缘	绝缘	绝缘	

* 警告 表示可能对用户造成危险的状况和操作。

* 注意 表示可能对产品或受测设备造成损坏的状况和操作。

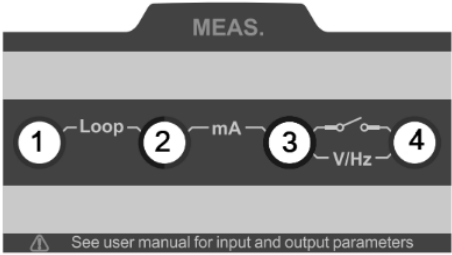
符合标准

- ◆ EN IEC 60079-0:2018
- ◆ EN 60079-11:2012
- ◆ IEC 60079-0:2017 Edition 7.0
- ◆ IEC 60079-11:2011 Edition 6.0

设备名称防爆信息

- ◆ 符合的法规：ATEX directive 2014/34/EU 和 IECEx scheme 02
- ◆ 认证编号：TÜV 20 ATEX 8509 X 和 IECEx TUR 20.0009X
- ◆ Ex Marking for EU-Type Examination:  II 1 G Ex ia IIC T4 Ga
- ◆ Ex Marking for IECEx CoC: Ex ia IIC T4 Ga
- ◆ 温度：(-20~50)°C
- ◆ IP 等级：IP20
- ◆ 本安参数：

ConST285Ex
防爆智能压力校验仪



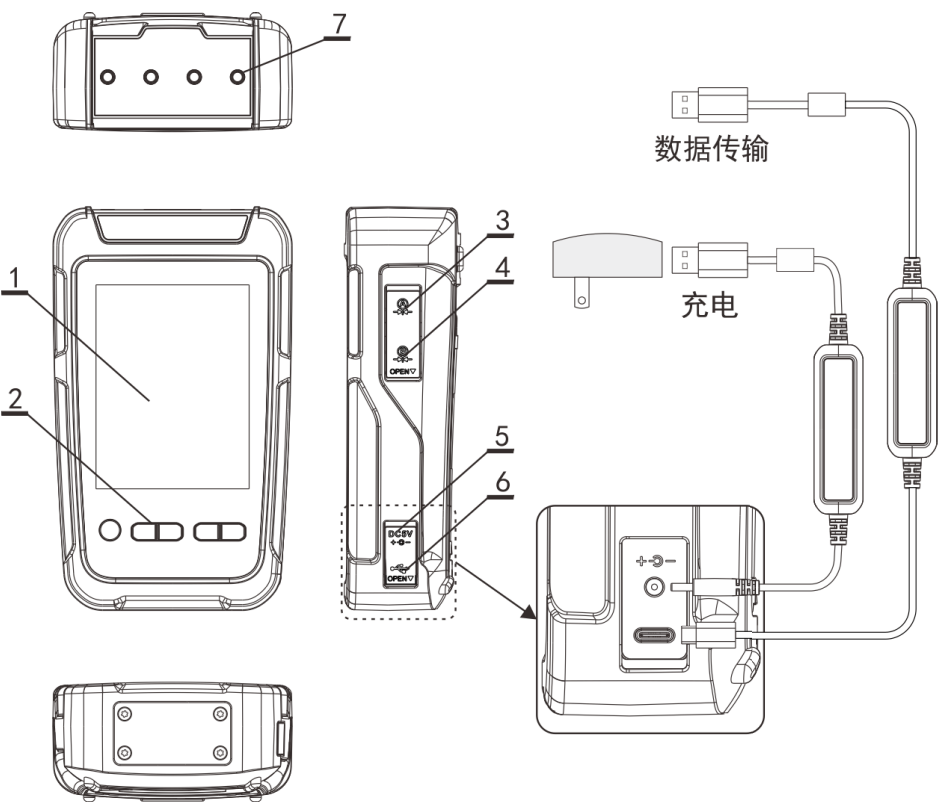
输入参数，简单连接

功能	功能	Ui/V	Ii/mA	Pi/mW	Gi/nF	Li/mH
J1、J3	HART（外源外阻）	30	100	750	10	0
J2、J3	电流测量	30	100	750	1	0
J4、J3	电压、频率和开关测量	30	100	750	1	0
J1、J2	回路变送器电流测量/HART（内源内阻）	30	100	750	10	0

输出参数，简单连接

连接	功能	Uo/V	Io/mA	Po/mW	Co/μF	Lo/mH
J1、J3	HART（外源外阻）	25.2	79.16	499	0.107	9
J2、J3	电流测量	5	0.85	1.1	87	100
J4、J3	电压、频率和开关测量	5	0.85	1.1	87	100
J1、J2	回路变送器电流测量/HART（内源内阻）	25.2	79.16	499	0.107	9

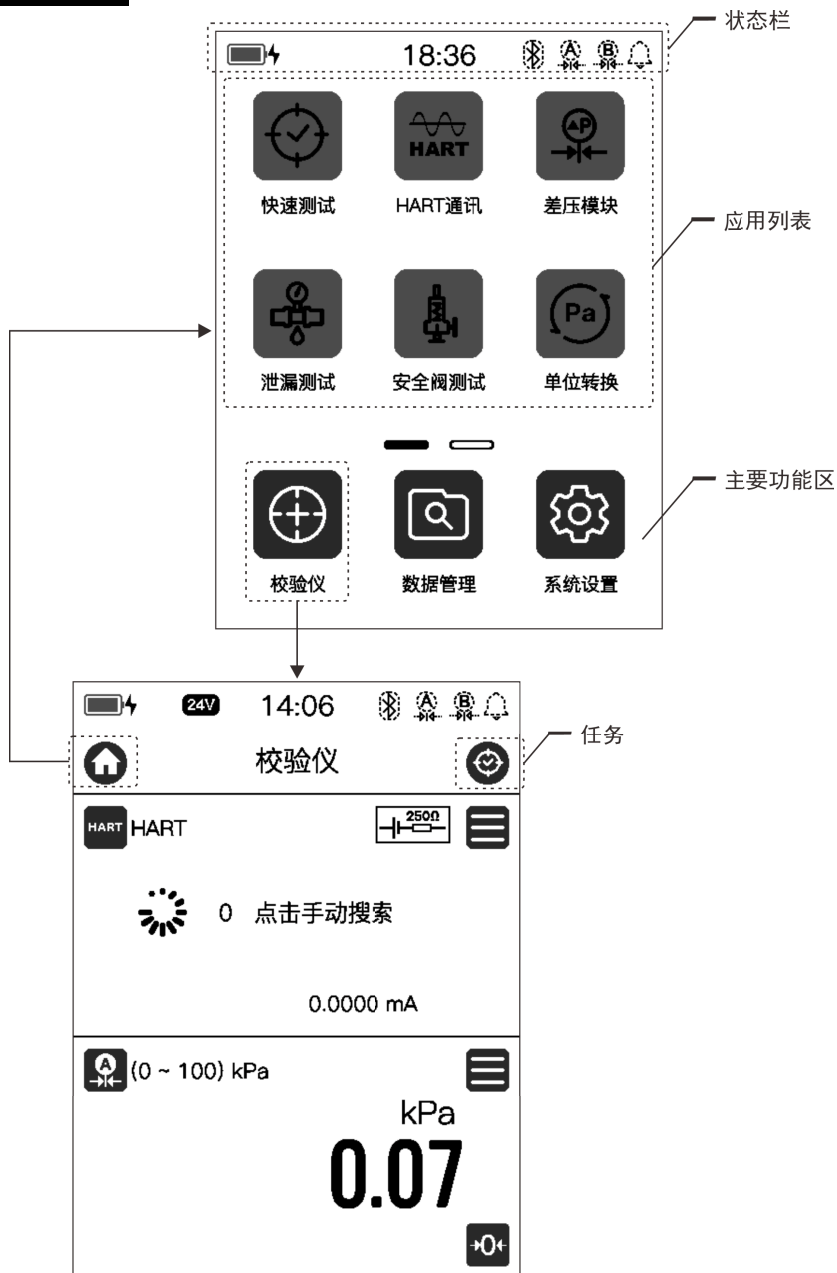
基本结构



序号	名称	说明
1	显示屏+电容屏	显示区域，可触摸操作
2	按键	用于操作设备
3	航插口 A	外接压力模块
4	航插口 B	外接压力模块
5	适配器接口	用于适配器供电*及电池充电
6	USB 从口	用于 USB 通信
7	电信号插孔	电信号测量连线接口

* 在设备安装电池的情况下有效

主界面



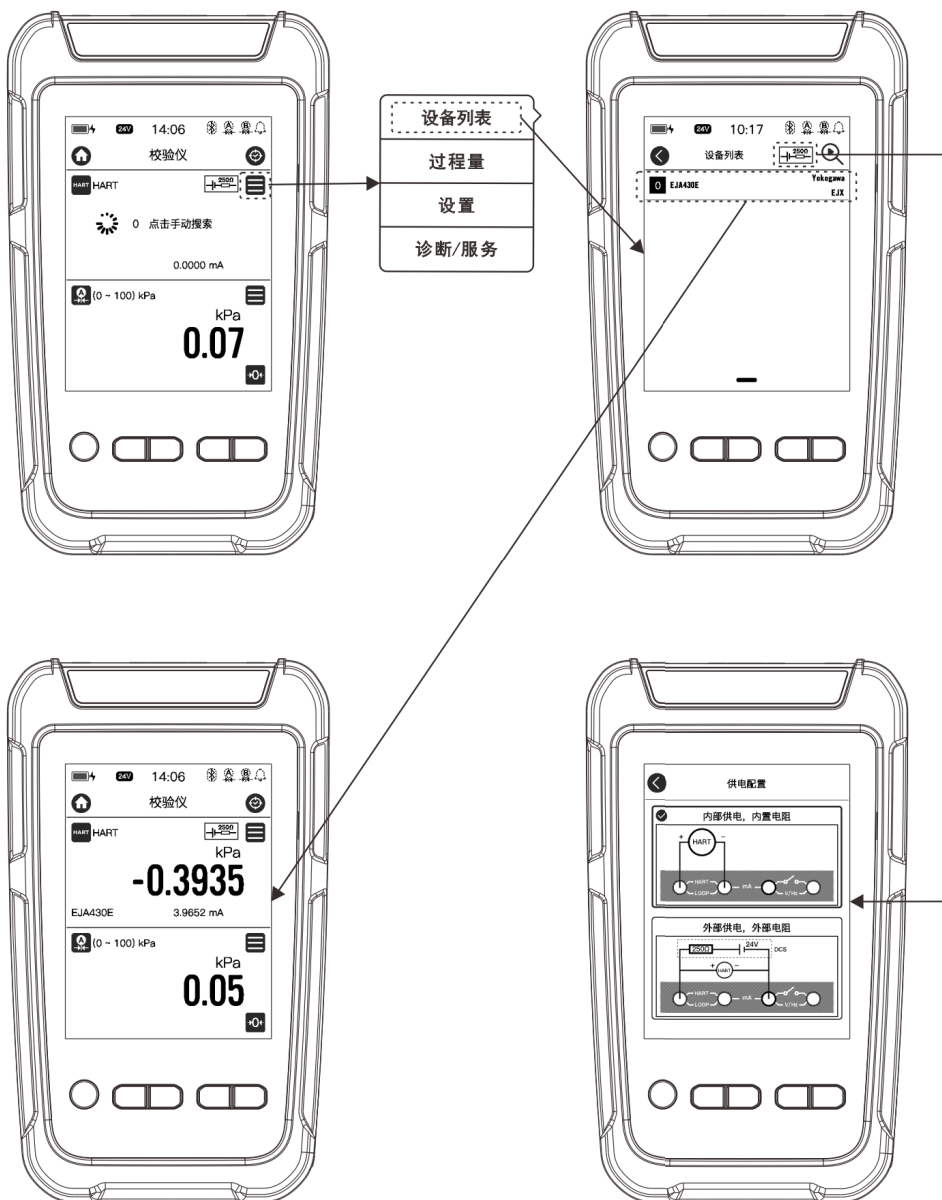
校验仪：主要功能区支持功能快速切换

数据管理：以功能模块分类管理，每种功能保存的数据管理在其文件夹下以便浏览

系统设置：提供了系统维护、系统校准以及各项基础的系统设置项

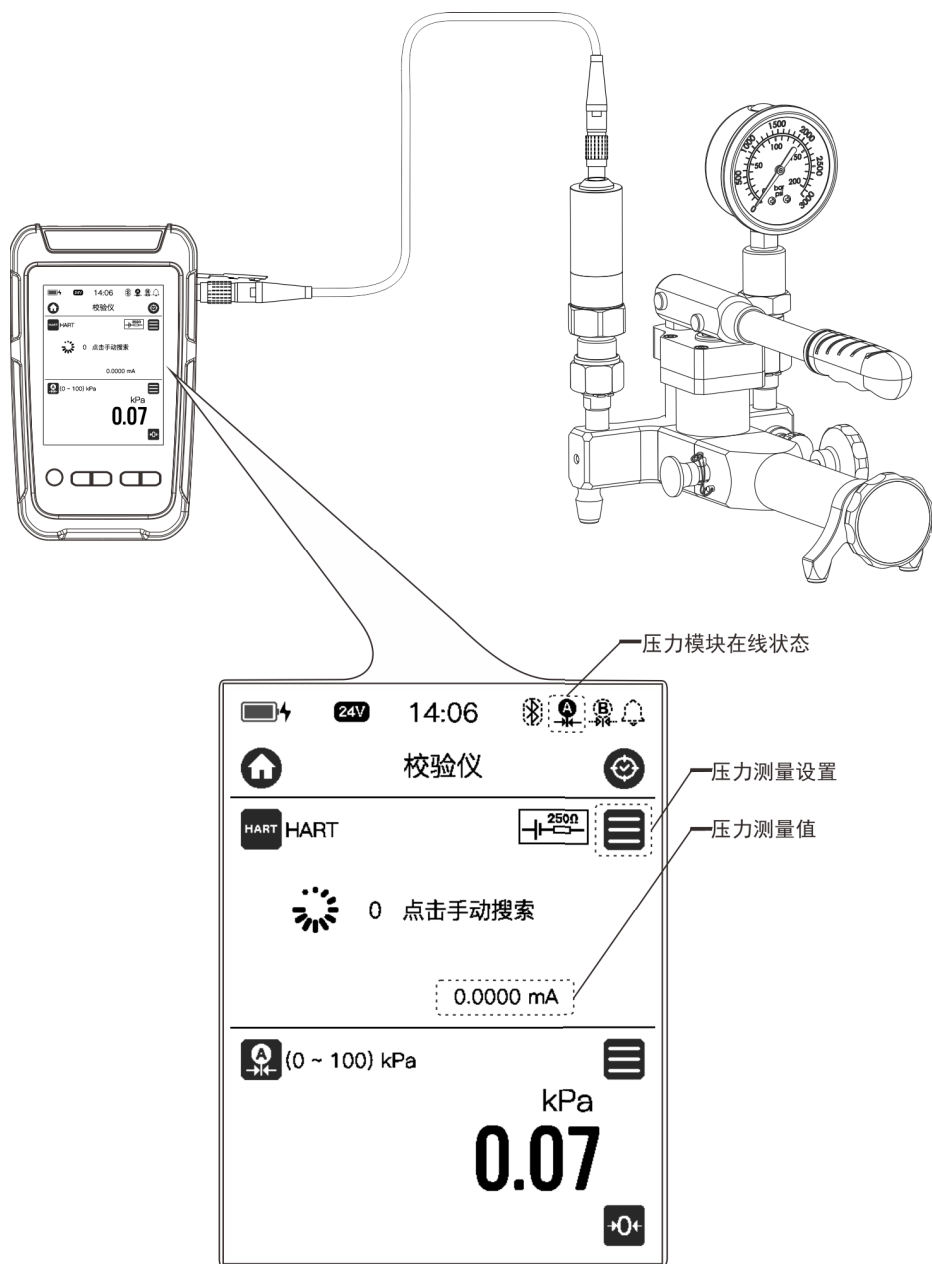
HART 通讯

在校验仪页面将测量档位切换至 HART, 校验仪将自动用上一次选择的供电配置 (默认为内电源内电阻连接方式), 并对“0”地址进行搜索。搜索到 HART 设备后自动连接并显示其示值。如果连接不上 HART, 请按以下方式手动搜索 HART 设备, 图示以【内电源内电阻模式】的连接模式为例。



典型连接

将压力模块连接到校验仪的航插 A 口或 B 口，如果校验仪正确识别外接模块，状态栏将会出现外接模块在线标识，您也可以在校验仪内切换到外接压力通道查看压力模块相应信息。上下两个通道位置均能够用于压力测量。



附录 A: ATEX DOC

EU Declaration of Conformity

Manufacturer's Name: Beijing ConST Instruments Technology Inc.

Manufacturer's Address: 5th Building, No.3, Fengxiu Middle Road
Haidian District, Beijing ,China

Object of the declaration:

Product name: Calibrator and Recorder

Type / model: ConST285Ex, ConST286Ex, ConST326Ex,
ConST326Ex-S,and ConST326Ex-E

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant Union Harmonization Legislation:

ATEX Directive 2014/34/EU

EU-Type Examination Certificate Standard:

EN IEC 60079-0:2018

EN 60079-11:2012

EX Markings:  II 1G Ex ia IIC T4 Ga

ATEX EU Type Examination Certificate: TÜV 20 ATEX 8509 X

ATEX Notified Body for EU Type Examination Certificate:

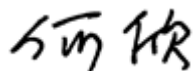
TUV Rheinland Industrie Service GmbH (Notified Body number 0035)
Am Grauen Stein, 51105 Köln, Germany

ATEX Quality Assurance Notification No.: 01 220 113512

ATEX Notified Body for Quality Assurance:

TUV Rheinland Industrie Service GmbH (Notified Body number 0035)
Am Grauen Stein, 51105 Köln, Germany

Signed for and on behalf of Beijing ConST Instruments Technology Inc.:



Name: He Xin

Title: General Manager

Date: 2022-01-14

附录 B: Special conditions for safe use

- 1. WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
- 2. WARNING - DO NOT CHARGE THE BATTERY IN HAZARDOUS LOCATION
- 3. WARNING - USE ONLY the approved BATTERIES, see Ex instruction
- 4. The equipment needs to protected from impacts with high impact energy
- 5. Do not touch the non-metallic enclosure or touch with the insulating materials only
- 6. The batteries used in the equipment with same manufacturer, same models and same electrochemical system
- 7. The conformal coating is applied to PCB boards was declared meet the requirements of IEC 60664-1 and IEC 60664-3 by manufacturer
- 8. Tamb: -20℃至+50℃。
- 9. USB port only to be used in Non-hazardous area.
- 10、PX connect with pressure measuring module CDPX-Ex only, the connected cables and flexible hose used for the external pressure modules are made of insulation materials, so end user should consider the risk of electrostatic discharge during material selection and installation process
- 11. Metallic parts(only fasteners) presented a maximum capacitance of total 110pF, end user should considered this risk for suitable application
- 12. No additional input energy limitation are required for Type-C USB port and DC charging port when Um does not exceed 250V(internal OVP/OCP are designed in line with IEC 60079-11)
- 13. Do not remove the silicone rubber protective sleeve from the enclosure of equipment in Hazardous area
- 14. IS parameters must be observed for different external measuring ports on the different models in accordance with Ex instruction strictly and completely
- 15. Intrinsically safe electrical system between IS apparatus and Associated apparatus or other IS apparatus:

Item	I.S Interface	External Measuring Instrument	System
Equipment group	IIC	IIC	IIC
Level of protection	ia	ia	ia
Temperature class	T4	T4	T4
Ambient temperature	-20℃~+50℃	-20° C~+50℃	
Voltage	Uo	Ui (30V)	
Current	Io	Ii (100mA)	
Power	Po	Pi (0.75W)	
Cable parameters			

Capacitance	Co	Ci	Cc
Inductance	Lo	Li	Lc
L/Rratio	/	/	/
Earthing	Isolated	Isolated	Isolated

$$U_o \leq U_i$$

$$I_o \leq I_i$$

$$P_o \leq P_i$$

$$C_o \geq C_i+C_c$$

$$L_o \geq L_i+L_c$$

Standard Compliance

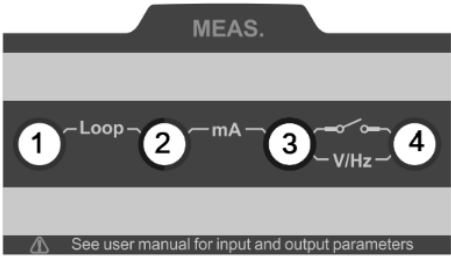
- EN IEC 60079-0:2018
- EN 60079-11:2012
- IEC 60079-0:2017 Edition 7.0
- IEC 60079-11:2011 Edition 6.0

Ex information for equipment name

- National regulations: ATEX directive 2014/34/EU and IECEx scheme 02
- Certificate No. :TÜV 20 ATEX 8509 X and IECEx TUR 20.0009X
- Ex Marking for EU-Type Examination: II 1 G Ex ia IIC T4 Ga
- Ex Marking for IECEx CoC: Ex ia IIC T4 Ga
- Tamb: -20℃~+50℃
- IP Rating: IP20
- I.S Parameters:

ConST285Ex

Intrinsically safe intelligent pressure calibratorr



Input parameters, simple connection

功能	功能	Ui/V	Ii/mA	Pi/mW	Ci/nF	Li/mH
J1、J3	HART (External Power supply and External Resistance)	30	100	750	10	0
J2、J3	Current Measuring	30	100	750	1	0
J4、J3	Voltage, Frequency AND Switch Measuring	30	100	750	1	0

J1、J2	Loop Circuit Transmitter Current Measuring / HART(Internal Power and Resistance)	30	100	750	10	0
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Output parameters, simple connection

连接	功能	Uo/V	Io/mA	Po/mW	Co/μF	Lo/mH
J1、J3	HART (External Power supply and External Resistance)	25.2	79.16	499	0.107	9
J2、J3	Current Measuring	5	0.85	1.1	87	100
J4、J3	Voltage,Frequency AND Switch Measuring	5	0.85	1.1	87	100
J1、J2	Loop Circuit Transmitter Current Measuring / HART(Internal Power and Resistance)	25.2	79.16	499	0.107	9

Intended use

- The equipment to be used in Zone 0 hazardous area with gas group IIC.
- The equipment is used in oil and gas platforms, oil refineries, chemical and petrochemical plants, pharmaceutical industry, energy and gas processing industries.

让校准测试更智慧

声 明

本说明书中产品技术指标及配件等相关信息仅供参考,最终以用户实际订单为准,请订货时确认。产品发展有时会涉及技术指标及配件等更改,恕不另行通知。

北京康斯特仪表科技股份有限公司

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用户手册下载