SUNSTAR商斯达实业集团是集研发、生产、工程、销售、代理经销 、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一,是一家专业代理和分銷世界各大品牌IC芯片和電子元器件的连锁经营綜合性国际公司。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商，已在全国范围内建成强大统一的供货和代理分销网络。 我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。**专业以现代信息产业（计算机、通讯及传感器）三大支柱之一的传感器为主营业务，专业经营各类传感器的代理、销售生产、网络信息、科技图书资料及配套产品设计、工程开发。我们的专业网站——中国传感器科技信息网（全球传感器数据库） www.SENSOR-IC.COM 服务于全球高科技生产商及贸易商，为企业科技产品开发提供技术交流平台。欢迎各厂商互通有无、交换信息、交换链接、发布寻求代理信息。欢迎国外高科技传感器、变送器、执行器、自动控制产品厂商介绍产品到 中国，共同开拓市场。**本网站是关于各种传感器-变送器-仪器仪表及工业自动化大型专业网站,深入到工业控制、系统工程计 测计量、自动化、安防报警、消费电子等众多领域，把最新的传感器-变送器-仪器仪表买卖信息,最新技术供求,最新采购商,行业动态，发展方向，最新的技术应用和市场资讯及时的传递给广大科技开发、科学研究、产品设计人员。本网站已成功为石油、化工、电力、医药、生物、航空、航天、国防、能源、冶金、电子、工业、农业、交通、汽车、矿山、煤炭、纺织、信息、通信、IT、安防、环保、印刷、科研、气象、仪器仪表等领域从事科学研究、产品设计、开发、生产制造的科技人员、管理人员 、和采购人员提供满意服务。 **我公司专业开发生产、代理、经销、**销售各种传感器、变送器、敏感元器件、开关、执行器、仪器仪表、自动化控制系统： 专门从事设计、生产、销售各种传感器、变送器、各种测控仪表、热工仪表、现场控制器、计算机控制系统、数据采集系统、各类环境监控系统、专用控制系统应用软件以及嵌入式系统开发及应用等工作。如热敏电阻、压敏电阻、温度传感器、温度变送器、湿度传感器、 湿度变送器、气体传感器、 气体变送器、压力传感器、 压力变送、称重传感器、物（液）位传感器、物（液）位变送器、流量传感器、 流量变送器、电流（压）传感器、溶氧传感器、霍尔传感器 、图像传感器、超声波传感器、位移传感器、速度传感器、加速度传感器、扭距传感器、红外传感器、紫外传感器、 火焰传感器、激光传感器、振动传感器、轴角传感器、光电传感器、接近传感器、干簧管传感器、继电器传感器、微型电泵、磁敏（阻）传感器 、压力开关、接近开关、光电开关、色标传感器、光纤传感器、齿轮测速传感器、 时间继电器、计数器、计米器、温控仪、固态继电器、调压模块、电磁铁、电压表、电流表等特殊传感器 。 同时承接传感器应用电路、产品设计和自动化工程项目。

欢迎索取免费详细资料、设计指南和光盘 ；产品凡多，未能尽录，欢迎来电查询。

更多产品请看本公司产品专用销售网站:

商斯达中国传感器科技信息网：http://www.sensor-ic.com/

商斯达工控安防网：http://www.pc-ps.net/

商斯达电子 元器件网：http://www.sunstare.com/

商斯达微波光电产品网:HTTP://www.rfoe.net/

商斯达消费电子产品网://www.icasic.com/

商斯达军工产品网:http://www.junpinic.com/

商斯达实业科技产品网://www.sunstars.cn/传感器销售热线：

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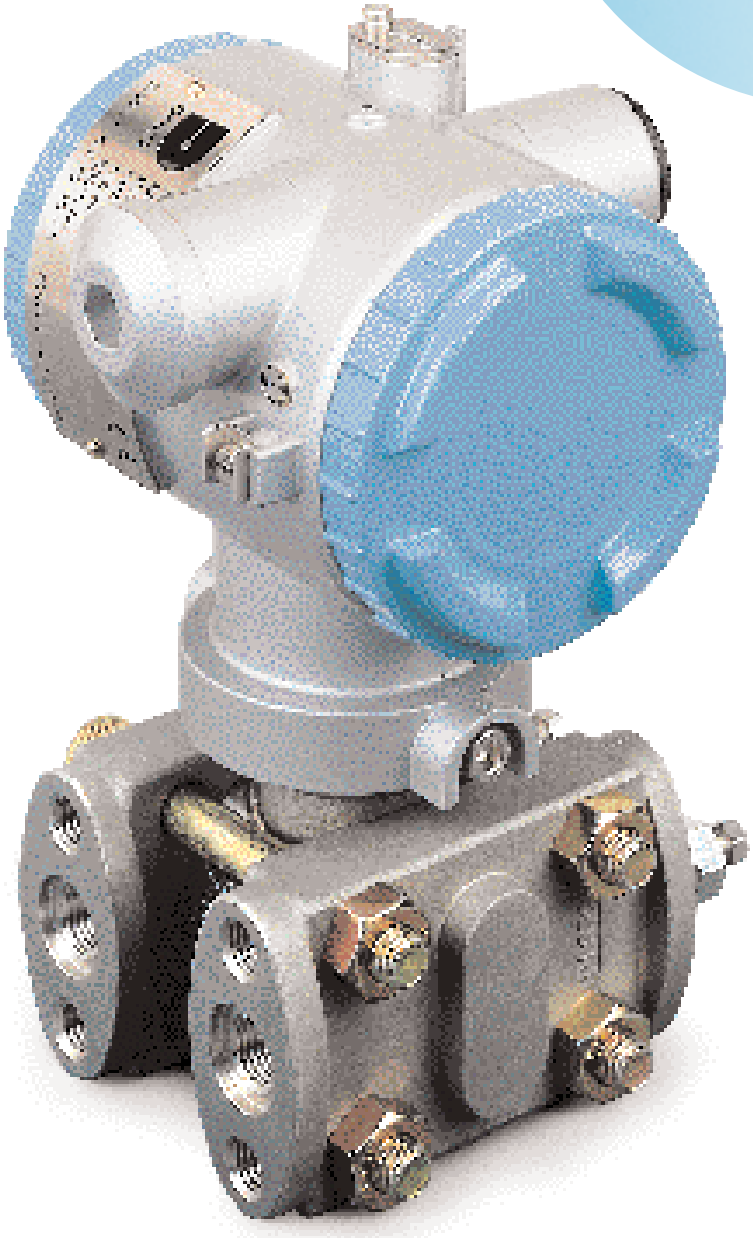
技术支持：0755-83394033 13501568376

STX 2100 Series

GE Druck

Smart/HART® Differential Pressure Transmitter

- ± 0.1% accuracy
- Ranges from 3.75 mbar to 20 bar
- 16:1 rangeability
- Line Pressure up to 140 bar
- 2-wire 4-20 mA with HART® protocol
- Local zero and span adjustment



STX 2100 Series

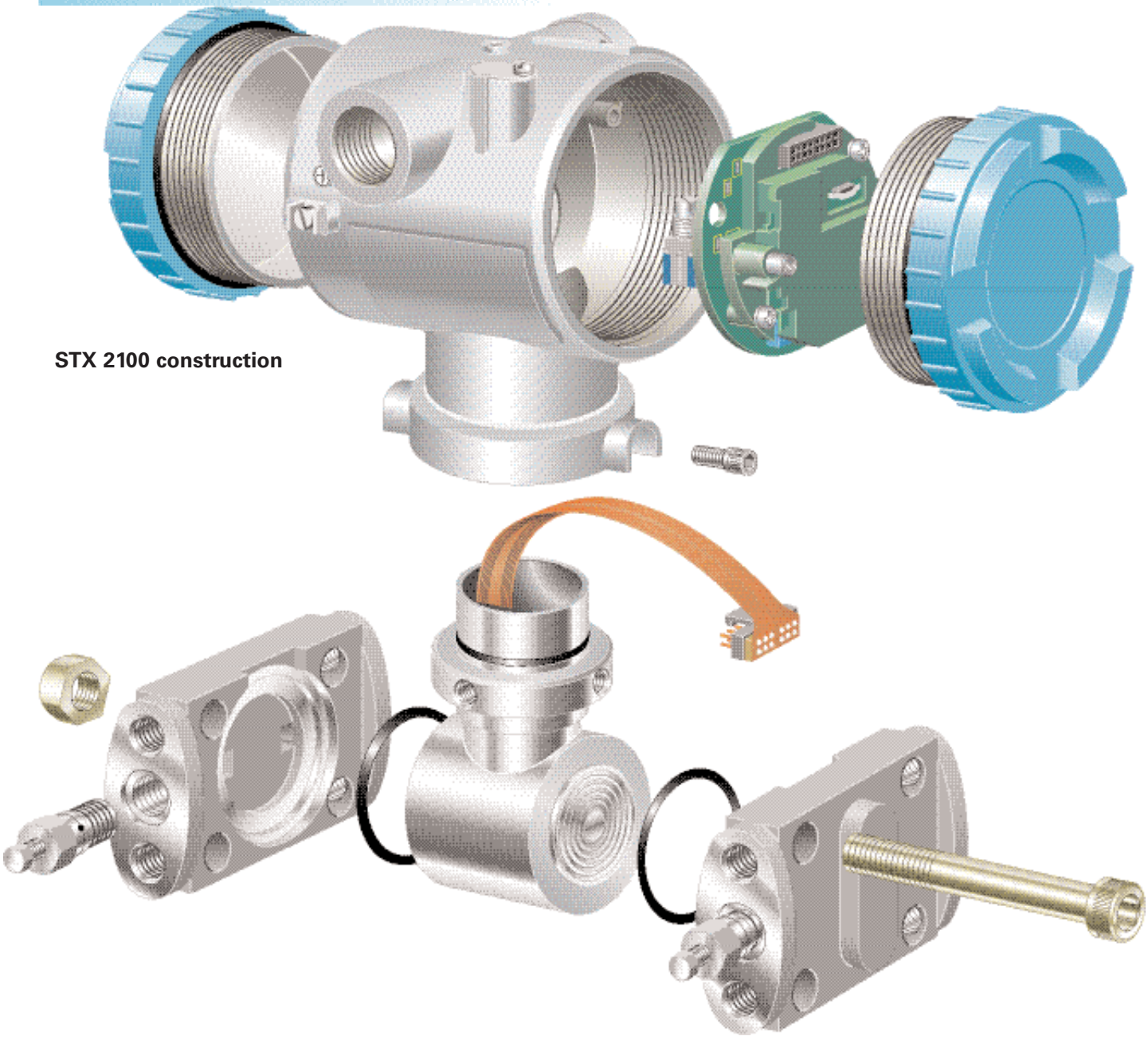
Smart/HART® Differential Pressure Transmitter

The STX 2100 Series Differential Pressure Transmitter complements the STX 2000 Series, providing a complete family of Smart gauge, absolute and differential units. Featuring a unique floating sensor design and state-of-the-art electronics incorporating the HART® protocol, the STX 2100 Series provides enhanced performance and digital two-way communication.

At the heart of the instrument is a micro-capacitance silicon sensing element which floats remotely from the isolation diaphragms. Silicon has excellent mechanical properties, being perfectly free from hysteresis, and enables repeatability of better than 0.01% to be achieved. Wide measurement capability results in a standard sensor design covering all pressure ranges, enabling the use of process connections with 54mm centres to DIN 19213 throughout.

The electronics assembly is modular and utilises surface mounted components and ASIC (Application Specific Integrated Circuit) technology to create a neat and compact electronics unit. As the compensation data is stored in an EEPROM within the sensing element, the electronics can easily be replaced in the field without the need to re-characterize the complete assembly. The microprocessor performs selectable damping, high or low failure alarm, linear or square root output function and write protection to inhibit any unauthorised change of instrument configuration.

The optional LCD indicator is available configured in a number of display options: 0-100% linear, engineering units or 0-100% square root scale independent of transmitter analogue output.



STX 2100 construction

STANDARD SPECIFICATION

Pressure Measurement Specification

Standard Ranges

The transmitter is available in the following standard (zero based) ranges or calibrated to any acceptable intermediate span specified:-

0-3.75 mbar to 0-60 mbar differential
(Static pressure limit: 32 bar)

0-20 mbar to 0-320 mbar differential
0-81.25 mbar to 0-1.3 bar differential
0-312.5 mbar to 0-5 bar differential
0-1.25 bar to 0-20 bar differential
(Static pressure limit: 140 bar)

Range Adjustment

Span setting:-
The transmitter output can be adjusted to give a full 4-20 mA output change for any span down to 6.25% of the Upper Range Limit (URL) e.g. a 320 mbar device can be adjusted down to a minimum span of 20 mbar (16:1 down-ranging).

Zero offset:-
The zero (4mA) output of the transmitter can be set anywhere within the range -100% to +93.75% of the URL e.g. a 320 mbar device can be adjusted to give 4-20 mA for -320 to 0 mbar. At the minimum span of 20 mbar, the same device could also be calibrated to give 4-20 mA for 300 to 320 mbar.

Overpressure

The device can withstand overpressure to the static pressure limit as stated above on either side without damage to the sensor.

Pressure Containment

Application of pressure beyond the static pressure limit and up to 350 bar (150 bar for 60 mbar unit) may damage the sensor but process media leakage will not occur.

Process Media

Any liquid, gas or vapour compatible with 316 stainless steel with either viton or PTFE process seals. *Metallic wetted parts comply with NACE MR-01-75.*

Output Current

4-20 mA (2 wire configuration) linear or square root proportional to the calibrated pressure range, with HART® digital signal superimposed.

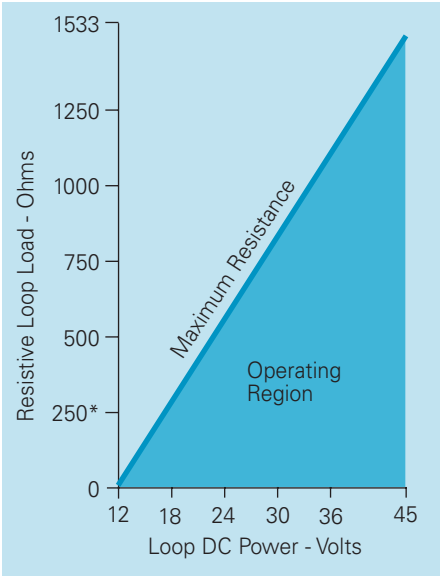
Performance Specifications

Accuracy

±0.1% of calibrated span including the combined effects of non-linearity, hysteresis and repeatability for spans between 1:1 and 10:1 URL.
For spans below 10:1

$$\pm \left[0.05 + (0.05 \times \frac{0.1 \times URL}{Span}) \right] \% \text{ of span}$$

Transmitter Supply Voltage



*Note:-
250 Ohms minimum loop resistance required for optional HART® communications.
(The STX 2100 will function in standard analogue mode with less than 250 Ohms).

Long Term Stability

At standard reference conditions, the calibration will not change by more than 0.1% URL over 12 months.

Operating Temperature Range

Ambient:-
-40° to +85°C
(-20° to +80°C for LCD indicator)
(-10° to +60°C for fluorinated oil filled transmitters)

Process:-
-40° to +100°C
(-20° to +80°C for fluorinated oil filled transmitters)

Storage:-
-40° to +90°C

Temperature Effects

Zero shift: better than ±0.5% URL/55°C

Total shift: better than ±1% URL/55°C

Static Pressure Effect

Zero shift (%URL):-
60mbar range: maximum ±0.4%/32 bar
All other ranges: maximum ±0.2%/100 bar
Note: Correctable by adjusting zero at line pressure

Span shift (% calibrated span):-
60 mbar range: maximum ±0.4%/32 bar
All other ranges: maximum -0.5%/100 bar

Overrange Effect

Zero shift at maximum line pressure (%URL): ±0.4%

Supply Sensitivity

Less than 0.005% of calibrated span per volt.

Mounting Position Effect

Zero shift less than 1.2 mbar for a 10° tilt in any plane, correctable by adjusting zero. No effect on span.

Failure Mode Alarm

User selectable upscale or downscale drive or hold output under detected failure conditions.

Turn-on time

4 seconds.

Damping

Adjustable between 0 and 38.4 seconds.

Hazardous Area Approvals

Approved to International Standards for Intrinsic Safety and Flameproof Certification:-

Intrinsic Safety Certification:-
CE Ex II 1 GD EEx ia IIC T5 (Ta = 40°C)
1180 EEx ia IIC T4 (Ta = 80°C)

Flameproof Certification:-
CE Ex II 2 GD Ex ds IIC T6 (Ta = 65°C)
1180 Ex ds IIC T5 (Ta = 85°C)

Type N Certification:-
CE Ex II 3 GD Ex nL IIC T5 (Ta = 40°C)
1180 Ex nL IIC T4 (Ta = 80°C)

All options are compliant with EMC Directive 89/336/EEC

Physical Specifications

Electrical Connections

The threaded electrical conduit connections can be specified as M20, $1\frac{1}{4}_2$-14 NPT or PG 13.5 female.

Process Connections

The process connections can be specified as $1\frac{1}{4}_4$-18 NPT female or $1\frac{1}{4}_2$-14 NPT female (via adaptors) on 54mm centres to DIN19213.

Electronics Housing

Low copper aluminium alloy, with epoxy double coating.
Environmental Protection: IP67, NEMA 4X.

Bolt and Nut Fastenings

Cr-Mo alloy or optional 304 stainless steel
Note: Static pressure rating is limited to 100 bar with 304 stainless steel bolts.

Fill fluid

Silicone oil or optional fluorinated oil.

Shipping Weight

Standard Transmitter: 3.4kg approx
Add 800gms for LCD indicator, 500gms for mounting bracket.

OPTIONS

Integral digital indicator with 5 digit LCD
Mounting bracket for 2" pipe in 304 stainless steel.
Please refer to ordering information overleaf.

ACCESSORIES

HART® communication tools, remote diaphragm seals and manifold valves are also available.
Please refer to separate datasheet.

STX 2100 Series

Smart/HART® Differential Pressure Transmitter

ORDERING INFORMATION

Please state the following:

X 21 — Base Model Number

Code	Diaphragm	Process Flanges	Fill Fluid
00	316L stainless steel	316 stainless steel	Silicone Oil
10	316L stainless steel	316 stainless steel	Fluorinated Oil

Code	Range		
01	0 - 3.75 mbar	to	0 - 60 mbar
03	0 - 20 mbar	to	0 - 320 mbar
06	0 - 81.25 mbar	to	0 - 1.3 bar
09	0 - 312.5 mbar	to	0 - 5 bar
13	0 - 1.25 bar	to	0 - 20 bar

Code	Process Connection	Conduit Entry
1	1/4 - 18 NPT	M20
2	1/2 - 14 NPT (via adaptors)	M20
3	1/4 - 18 NPT	1/2 - 14 NPT
4	1/2 - 14 NPT (via adaptors)	1/2 - 14 NPT
5	1/4 - 18 NPT	PG 13.5
6	1/2 - 14 NPT (via adaptors)	PG 13.5

Code	Sensor 'O' Ring
A	Viton
B	PTFE

Code	Bolt/Nut Materials
1	Cr/Mo alloy
2	304 stainless steel

Code	Approvals
O	Safe Area
I	Intrinsically Safe
D	Flameproof
N	Type N

Code	Options
O	None
L	Digital indicator, 0-100% Linear
C	Digital indicator, custom scale
S	Digital indicator, 0-100% sq. root scale
B	Mounting bracket, 304 stainless steel

X2100 - 01 - 1 - A - 2 - I - LB — Typical Model Number

RELATED PRODUCTS

GE Druck manufactures a comprehensive range of pressure transducers, indicators, controllers and calibrators. The range of portable calibrators also covers temperature and electrical parameters.

Please refer to the manufacturer for further information and datasheets.

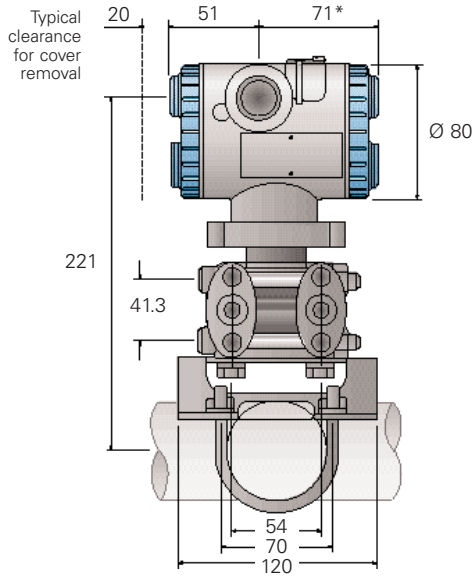
DPI610 Portable Pressure Calibrator in action.

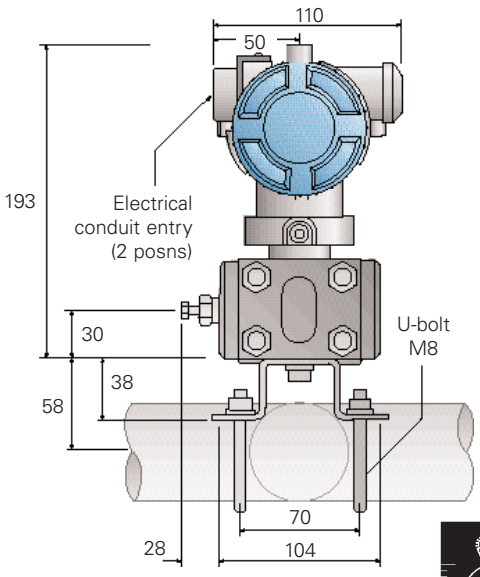
CALIBRATION STANDARDS

Instruments manufactured by GE Druck are calibrated against precision pressure calibration equipment which is traceable to International Standards.

Continuing development sometimes necessitates specification changes without notice.

Installation Drawings dimensions in mm.





*LCD indicator option: 98

0221
Group

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05/04