



## SU501 VF13 Safety instructions

TÜV 17 ATEX 198530

II (1) G [Ex ia Ga] IIC, II (1) D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

CE 0344



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Please note:

These safety instructions are part of the following documentation:

- 27953 - SU501 VF 13
- 52813 - EU type approval certificate TÜV 17 ATEX 198530

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DE	Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen
EN	Safety instructions for the use in hazardous areas
FR	Consignes de sécurité pour une application en atmosphères explosibles
IT	Normative di sicurezza per l'impiego in luoghi con pericolo di esplosione
ES	Instrucciones de seguridad para el empleo en áreas con riesgo de explosión
PT	Normas de segurança para utilização em zonas sujeitas a explosão
NL	Veiligheidsaanwijzingen voor gebruik op plaatsen waar ontploffingsgevaar kan heersen
SV	Säkerhetsanvisningar för användning i explosionsfarliga områden
DA	Sikkerhedsforskrifter til anvendelse i explosionsfarlig atmosfære
FI	Turvallisuusohjeet räjähdysvaarallisissa tiloissa käyttöä varten
EL	Υποδείξεις ασφαλείας για τη χρησιμοποίηση σε περιοχές που υπάρχει κίνδυνος έκρηξης

DE	Die vorliegenden Sicherheitshinweise sind in den Sprachen deutsch, englisch, französisch und spanisch verfügbar. Weitere EU-Landessprachen stellt der Hersteller nach Anforderungen zur Verfügung.
EN	The present safety instructions are available in German, English, French and Spanish. Further EU languages will be provided by the manufacturer upon request.
FR	Les présentes consignes de sécurité sont disponibles dans les langues allemand, anglais, français et espagnol. Le fabricant met d'autres langues de l'Union Européenne à disposition en fonction des demandes.
ES	Las presentes instrucciones de seguridad están disponibles en los idiomas alemán, inglés, francés y español. El fabricante pone a disposición según demanda otros idiomas nacionales de la UE.

## 1 Area of applicability

These safety instructions apply to the signal conditioning instruments SU501 VF13 according to EU type approval certificate TÜV 17 ATEX 198530 (certificate number on the type label) and for all instruments with the number of the safety instruction (52812) on the type label.

## 2 General information

The signal conditioning instruments SU501 VF13 are accessory electrical devices used to process 4 ... 20 mA or 8/16 mA measurement signals as well as to supply intrinsically safe sensors with power. They are also used to galvanically isolate intrinsically safe circuits from non-intrinsically safe circuits.

If the signal conditioning instruments SU501 VF13 are used for powering intrinsically safe sensors that are installed and operated in hazardous areas, the general Ex mounting instructions EN/IEC 60079-14 as well as these safety instructions must be observed.

The operating instructions as well as the installation regulations or standards that apply for explosion protection of electrical systems must generally be observed.

The installation of explosion-protected systems must always be carried out by qualified personnel.

The signal conditioning instruments SU501 VF13 were checked on the basis of the standards EN/IEC 60079-0: 2012, EN/IEC 60079-11: 2012.

## 3 Technical data

The SU501 VF13 include non-intrinsically safe circuits and one intrinsically safe circuit.

### Non-intrinsically safe circuits

Operating voltage: (connections KI9, KI10)	U = 20 ... 72 V DC
	U = 20 ... 253 V AC
	U <sub>m</sub> = 253 V AC
Relay output: (connections KI12, KI13, KI14)	Maximum values:
	250 V AC, 3 A, 500 VA
	250 V DC, 1 A, 54 W
Transistor output: (connections KI5, KI6)	max. 36 V, max. 60 mA
	U <sub>m</sub> = 253 V AC

### Intrinsically safe circuit

Signal circuit: (connections KI1, KI2)	Ignition protection type intrinsic safety Ex ia IIC/IIB/I, Ex ia IIIC
	Maximum values:
	U <sub>o</sub> ≤ 20 V
	I <sub>o</sub> ≤ 125 mA
	P <sub>o</sub> ≤ 624 mW
	Characteristics: linear
	Effective internal capacitance C <sub>i</sub> = 0 and inductance L <sub>i</sub> = 0
The permissible values for the external capacitances C <sub>o</sub> and inductances L <sub>o</sub> which result from the combination of C <sub>o</sub> and L <sub>o</sub> , can be found in the following table.	

Ex ia	IIC		IIB	I
Permissible inductance $L_o$	1.7 mH	0.6 mH	5 mH	5 mH
Permissible capacitance $C_o$	110 nF	120 nF	870 nF	1800 nF

The intrinsically safe signal circuit and power supply is separated from the non-intrinsically safe circuits up to a peak value of the nominal voltage of 375 V.

### 3.1 Application conditions

#### Ambient conditions

Ambient temperature -20 ... +60 °C (-4 ... +140 °F)

#### Electrical protective measures

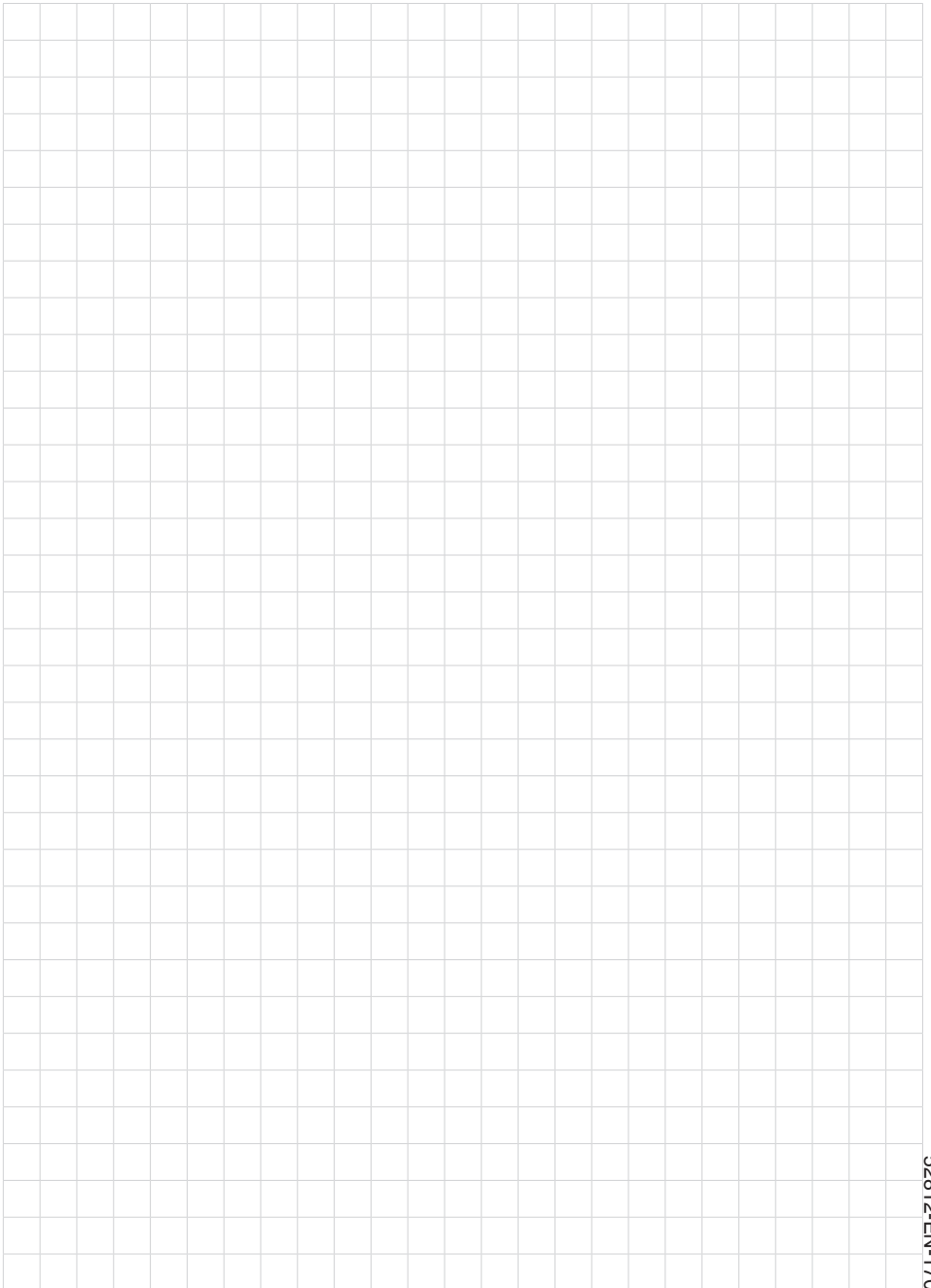
Protection rating IP 30

## 4 Installation

If the signal conditioning instruments SU501 VF13 are not set up in dry and clean environments, they must be mounted in a housing with the required protection rating.

The signal conditioning instruments SU501 VF13 must be operated outside hazardous areas. The separating wall must be installed before setup.

If the intrinsically safe circuit is led into dust-explosive areas of zone 20 or 21, please make sure that the instruments connected to these circuits meet the requirements of category 1D or 2D and are certified respectively.



A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



### **KROHNE product overview**

- Electromagnetic flowmeters
- Variable area flowmeters
- Ultrasonic flowmeters
- Mass flowmeters
- Vortex flowmeters
- Flow controllers
- Level meters
- Temperature assemblies
- Pressure transmitters
- Analysis products
- Products and systems for the oil and gas industry

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