

SLB515

Load Cell

SLB515



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1 Introduction

1.1 Instruction and Operation Manual for ATEX

This section covers only the ATEX-relevant aspects of the product.

Refer to SLB515 ATEX certificate KEMA 13ATEX0081 or KEMA 13ATEX0082. When load cells are considered in type of protection non-sparking Ex nA, they need to be fitted in an enclosure that complies with the equipment's of clause 6 of EN60079-15. With a permanent marker place a mark (✓) in the box on the load cell label to indicate the applicable protection (KEMA 13ATEX0081 or KEMA 13ATEX1082). Once selected it may not be changed.

KEMA 13ATEX0081 II 2 G Ex ib IIC T4 Gb II 2 D Ex ib IIIC T100°C Db	KEMA 13ATEX0082 II 3 G Ex ic IIC T4 Gc II 3 G Ex nA IIC T4 Gc II 3 D Ex tc IIIC T100°C Dc
Ui = 20V ; li = 600mA ; Pi = 1.25W Ci = 1.2nF ; Li = 6µH	Ui = 20V ; li = 600mA ; Pi = 1.25W Ci = 1.2nF ; Li = 6µH
EN 60079-0 2012 +A11; EN 60079-11 2012	EN 60079-0 2012 +A11; EN 60079-11 2012 EN 60079-15 2010 ; EN 60079-31 2009

1.2 Year of Manufacture

The year of manufacture is indicated by the last character of the load cell Serial Number (S/N) as follows:

3rd and 4th Character	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Year	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

2 Function of Equipment

The SLB515 can be used as category 2 or 3 equipment for hazardous Gas and hazardous Dust environments (Zone 1, 2, 21 and 22).

2.1 Details on Temperature Class / Coding

The following table shows the relationship between maximum total power Pi and maximum ambient temperature.

Temperature class/coding	Ui = 20 V, Pi = 1.25W
T4 (gas)	- 40°C ≤ Ta ≤ 50°C
T100°C (dust)	- 40°C ≤ Ta ≤ 50°C

2.2 Connection

Color Code:	
GREEN	+ Excitation
BLACK	- Excitation
YELLOW	Shield
WHITE	+ Signal
RED	- Signal

2.3 Information for Connections

- The resistance between all safety ground connections and the system grounding electrode must not exceed 1 ohm.
- If applying as intrinsically safe, the load cells must be interfaced with an approved safety barrier matching the entity parameter of the load cells.
- If applying as intrinsically safe, equipment connected to the safe side of the barrier shall not be powered by or generate more than 250VAC.
- Installation shall be in accordance with applicable local standards for hazardous areas.

- e. The sum of the rated power P_o of all excitation devices must be less than or equal to the power parameter P_i of one load cell.
- f. The sum of the excitation voltage U_o of all excitation devices must be less than or equal to the voltage parameter U_i of one load cell.
- g. The sum of the current I_o of all excitation devices must be less than or equal to the current parameter I_i of one load cell.
- h. Maximum cable length 30m. For longer cables their capacitance and inductance has to be included.

Cable Length	Capacitance C_i	Inductance L_i
3 m (9.9 ft)	0.6 nF	3.0 μ H
5 m (16.5 ft)	1.0 nF	5.0 μ H
10 m (33 ft)	2.0 nF	10.0 μ H
Per m (3.3ft)	0.2 nF	1 μ H

- i. In calculating the capacitance and inductance of the system, use these default values for connection cables (home-run cable, for example) unless the actual values are known:
 - a. Capacitance of the connection cable: 0.2 nF per meter
 - b. Inductance of the connection cable: 1 μ H per meter.
- j. The capacitance parameter C_o of the excitation device must be greater than or equal to the sum of the capacitances in the circuit (e.g., the capacitance of the connection cables plus the sum of the capacitances C_i of all load cells in the circuit).
- k. The inductance parameter L_o of the excitation device must be greater than or equal to the sum of the inductance of the connection cables plus the inductance L_i of one load cell.

Note: The entity parameters of any other devices in the circuit (e.g., a Junction Box) must be taken into account in assessing the compatibility of devices.

- l. In an explosive atmosphere caused by air / dust mixtures, the loose ends of the cable shall be connected outside the hazardous area or in a suitable enclosure with a degree of protection of at least IP6X in accordance with EN 60529.
- m. Not following these instructions will jeopardize the explosion safety.

2.4 Load Cell Marking SLB515

Other markings are as shown in the following labels which are attached to the product. At the time of installation the appropriate box on the left hand side of the Hazloc label must be checked with a permanent waterproof marker to indicate the applicable protection, once selected it may not change.



For Details on temperature class / coding please see section 2.1

Load cell variations include capacity, metrological performance, cable length, label and jacket material of polyurethane or PFEP.

2.5 Special Conditions for Safe Use

None for Load Cell SLB515.

3 Commissioning and Installation

- a. This equipment can be used in zone 1, 2, 21 and 22.
- b. The allowed ambient temperature range is specified in section 2.1
- c. This equipment complies with protection class > IP68 / EN 60529.
- d. The equipment must be grounded
- e. The load cell must not be used if it is defective or shows any visible damage.
- f. Load cells must not be re-used in an intrinsically-safe circuit if they have been operated already in a circuit in zone 2 or 22.
- g. Load cells must not be re-used in an intrinsically-safe circuit if they have been operated already in a non-intrinsically-safe circuit.

4 Usage

The load cells are only allowed for applications in accordance with METTLER TOLEDO documentation. Misuse will cause the loss of warranty and manufacturer's responsibility.

- a. If the load cells are not powered from an intrinsically-safe circuit, it is required that the load cell cables be terminated outside of the hazardous area or be terminated in suitable junction boxes.
- b. If used in hazardous dust environment the dust layer on the load cell body must not exceed 5 mm in thickness.

5 Maintenance

Maintenance interventions on these load cells must be carried out by METTLER TOLEDO authorized personnel only.

6 Repair

This equipment is certified for use in hazardous locations, therefore no modifications are allowed. Repairs must only be performed by personnel specifically trained for repairs of this equipment.


7 Waste Disposal



The waste disposal of package and shipped parts must be done in accordance with the regulations of the country in which the equipment is installed.

8 Appendix

8.1 Declaration of Conformity

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<p>EN EU Declaration of Conformity</p> <p>DE EU-Konformitätserklärung</p> <p>ES Declaración de conformidad UE</p> <p>FR Déclaration de conformité UE</p> <p>IT Dichiarazione di conformità UE</p> <p>NL EU-conformiteitsverklaring</p> <p>PT Declaração de Conformidade UE</p> <p>SE EU-försäkran om överensstämmelse</p> <p>DK EU-overensstemmelseserklæring</p> <p>NO EU-samsvarserklæring</p> <p>FI EU:n vaatimustenmukaisuusvakuutus</p> <p>EE EL-i vastavusdeklaratsioon</p> <p>LT ES atitikties deklaracija</p>	<p>LV ES atbilstības deklarācija</p> <p>RU Декларация о соответствии ЕС</p> <p>PL UE Deklaracja Zgodności</p> <p>CZ EU – Prohlášení o shodě</p> <p>HU EU megfeleléségi nyilatkozat</p> <p>TR AB Uyumluluk Beyanname</p> <p>BU Декларация за съответствие на EU</p> <p>HR Deklaracija o sukladnosti EU-a</p> <p>RO Declarație UE de conformitate</p> <p>SK EÚ – Vyhlásenie o zhode</p> <p>SL EU-izjava o skladnosti</p> <p>GR Δήλωση συμμόρφωσης EE</p>	 <p>30136754B</p>
<p>Model/Type: SLB515...</p> <p>Mettler-Toledo GmbH Im Langacher 44, 8606 Greifensee, Switzerland</p> <p>This declaration of conformity is issued under the sole responsibility of the manufacturer / Der Hersteller trägt die alleinige Verantwortung für die Ausstellung der Konformitätserklärung / La presente declaración de conformidad se publica bajo la responsabilidad exclusiva del fabricante / Cette déclaration de conformité est délivrée sous la seule responsabilité du fabricant / Questa dichiarazione di conformità è rilasciata sotto l'esclusiva responsabilità del produttore / Deze conformiteitsverklaring wordt uitsluitend afgegeven onder de verantwoordelijkheid van de fabrikant / Esta declaração de conformidade é emitida sob a responsabilidade exclusiva do fabricante / Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar. Denne overensstemmelseserklæring er udstedt under producentens eneansvar. Denne samsvarserklæringen er udstedt under eget ansvar av produsenten. Tämä vaatimustenmukaisuusvakuutus on annettu ainoastaan valmistajan vastuulla. Käesolev vastavusdeklaratsioon on välja antud tootja ainuvastutusel. Ši atitikties deklaracija yra išduota tik gamintojo atsakomybe. Ši atbilstības deklarācija ir izdota vienīgi uz ražotāja atbildību. Эта декларация соответствия выдается под ответственность производителя. Niniejsza deklaracja zgodności wydana jest na wyłączną odpowiedzialność producenta. Za toto prohlášení o shodě nese odpovědnost pouze výrobce. Ezen megfeleléségi nyilatkozat kiadása a gyártó kizárólagos felelőssége mellett történt. Bu uyumluluk beyanname sadece üreticinin sorumluluğuna atlıdada yayımlanmıştır. Настоящата декларация за съответствие е издадена на пълната отговорност на производителя. Ova deklaracija o skladnosti izdaje se pod punom odgovornošću proizvođača. Prezenta declarație de conformitate este emisă pe răspunderea exclusivă a producătorului. Za toto vyhlásenie o zhode nesie zodpovednosť iba výrobca. Za to izjava o skladnosti odgovarja izključno proizvajalec. Η παρούσα δήλωση συμμόρφωσης εκδίδεται με αποκλειστική ευθύνη του κατασκευαστή.</p> <p>The object of the declaration described above is in conformity with the following documents: Das oben beschriebene Produkt ist konform mit den Anforderungen der folgenden Dokumente: El objeto de la declaración descrita anteriormente es conforme con los siguientes documentos: L'objet de la déclaration décrite ci-dessus est en conformité avec les documents suivants: L'oggetto della dichiarazione di cui sopra è conforme ai seguenti documenti: Het product, waar de hierboven omschreven verklaring betrekking op heeft, is in overeenstemming met onderstaande documenten: O objeto da declaração descrita acima está em conformidade com os seguintes documentos: Föremålet för försäkran ovan överensstämmer med följande dokument: Genstanden for erklæringen, som beskrevet ovenfor, er i overensstemmelse med følgende dokumenter: Gjenstanden for erklæringen ovenfor er i samsvar med følgende dokumenter: Edellä kuvattu vakuutusksen kohde on seuraavien asiakirjojen vaatimusten mukainen: Eelnevalt kirjeldatud deklaratsiooniohjekt vastab järgmistele dokumentidele. Pirmiau nurodytas deklaracijos objektas atitinka toliau išvardytus dokumentus: Iepriekš aprakstītais deklarācijas priekšmets atbilst attiecīgajiem dokumentiem: Объектом декларации, описанный выше, в соответствии со следующими документами: Przedmiot deklaracji opisany powyżej jest zgodny z następującą dokumentacją: Výše popsaný předmět prohlášení je ve shodě s následujícími dokumenty: A fent ismertetett nyilatkozat tárgyáa megfelel a következő dokumentumoknak: Yukarıda açıklanan beyanın konusu aşağıdaki belgelerle uyumludur: Целта на описаната по-горе декларация е съответствие със следните документи: Gore opisani predmet izjave u skladnosti je sa sljedećim dokumentima: Obiectul declarației descrise mai sus este conform cu următoarele documente: Vyššie popísaný predmet vyhlásenia je v súlade s nasledujúcimi dokumentmi: Predmet zgoraj opisane izjave je v skladu z naslednjimi dokumenti: Το αντικείμενο της δήλωσης περιγράφεται παραπάνω συμμορφώνεται με τα ακόλουθα έγγραφα:</p>		

Marking	EU Directive	Standards / Norm	
	RoHS Directive 2011/65/EU (OJEU, 2011, L174, p88)	EN 50581:2012	
	ATEX Directive 2014/34/EU (OJEU, 2014, L96, p309)	EN 60079-0:2012+A11 EN 60079-11:2012 EN 60079-15:2010 EN 60079-31:2009	DEKRA 13ATEX0082 Issue 2 II 3 G Ex ic IIC T4 Gc II 3 G Ex nA IIC T4 Gc II 3 D Ex tc IIIC T100°C Dc
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	ATEX Directive 2014/34/EU (OJEU, 2014, L96, p309)	EN 60079-0:2012+A11 EN 60079-11:2012	DEKRA 13ATEX0081 Issue 2 ⁽¹⁾ II 2 G Ex ia IIC T4 Gb II 2 D Ex ib IIIC T100°C Db

(1) – Certificate issued by DEKRA Certification B.V., Meander 1051, 6825 MJ Arnhem, The Netherlands, Notified Body No. 0344

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