



DINI AR GEO

Scales - Weighing systems



DINI AR GEO
Scales - weighing systems
www.dinargeo.com

CE DECLARATION OF CONFORMITY

to:
DINI AR GEO Srl
Via della Fisica, 20
41042 Spezzano di Fiorano (MO) - ITALY

Declare under our responsibility that the whole system made up of:

- DFWATEX2GD electronic weighing terminal (CEC 07 ATEX 060 CE type certificate)
- PW200XRD230 power supplier (CEC 07 ATEX 094 X CE type certificate)
- TTN15 series platform (AETF01 Tech. File Dep. N° CFC-04/2036-ADF-088)
- Celle di carico serie AG-20 (Certificato CE di tipo n° LCIE 02 ATEX 6199 X)

Described in this declaration conform to the following directives:

- EMC 2004/108/EU
- ATEX 94/9/EC
- 90/384/EEC

The conformity is demonstrated by the observance of the following norms

- EN 50014:1997 + amendments 1 and 2
- EN 50020:2002
- EN 50284:1999
- EN 1127-1:1997



Dini Argeo, a company specialised in the design and production of scales and weighing systems, is well-established in the world market for its quality and reliability.

The weighing solutions offered by Dini Argeo cover all industrial weighing applications: from counting pieces to automatic dosages, from logistics weighing (pallet truck scales, palletweighers, weighing forks for lift trucks, suspended crane scales) to labelling, from checking production lines to vehicle weighing.

Dini Argeo also offers a wide range of interfaces and accessories guaranteeing the maximum interfaceability and flexibility of use.

The products, besides conforming to the quality standards recognised at an international level, are submitted to the best independent certification laboratories, accredited at a European level, in order to guarantee the maximum quality to the customer.

Dini Argeo exports in over 60 countries of the world and offers qualified and specialised technical personnel.

To obtain further information regarding our products, do not hesitate to contact us or visit the www.diniargeo.com web site.



ISO 9001: 2000

Dini Argeo has a Quality Management System Certification according to the UNI EN ISO 9001:2000 norm for the design, production and post sales assistance of measuring instruments, scales and weighing systems, components and software. (CSQ N° 9105.DINI certificate)



Dini Argeo is an ATEX notified company according to the 94/9/CE directive (attachment IV). The Dini Argeo production process is therefore certified for the production and sale of equipment marked Ex, destined for use in potentially explosive environments. The Ex logo next to the product indicates the possibility of having the ATEX product, certified upon request. (CEC 07 ATEX 095 I rev.1 certificate)



The digital ISOLOAD® technology greatly improves the performance and measuring accuracy in every point of the weighing load surface by allowing to manage, control and independently calibrate each single load cell in the scale or weighing system. This also shortens the time for the subsequent periodic calibration or maintenance checks.



The CE-M certification issued by the Metric Central Office attests that the instrument has a CE TYPE APPROVAL CERTIFICATE that certifies the suitability for legal for trade use. This approval is required for all uses in relation with third parties.



The products bearing this mark conform with the recommendations of the International Organisation of Legal Metrology (OIML) regarding the standardisation of the approval prescriptions. This certification is made by an internationally recognized laboratory.

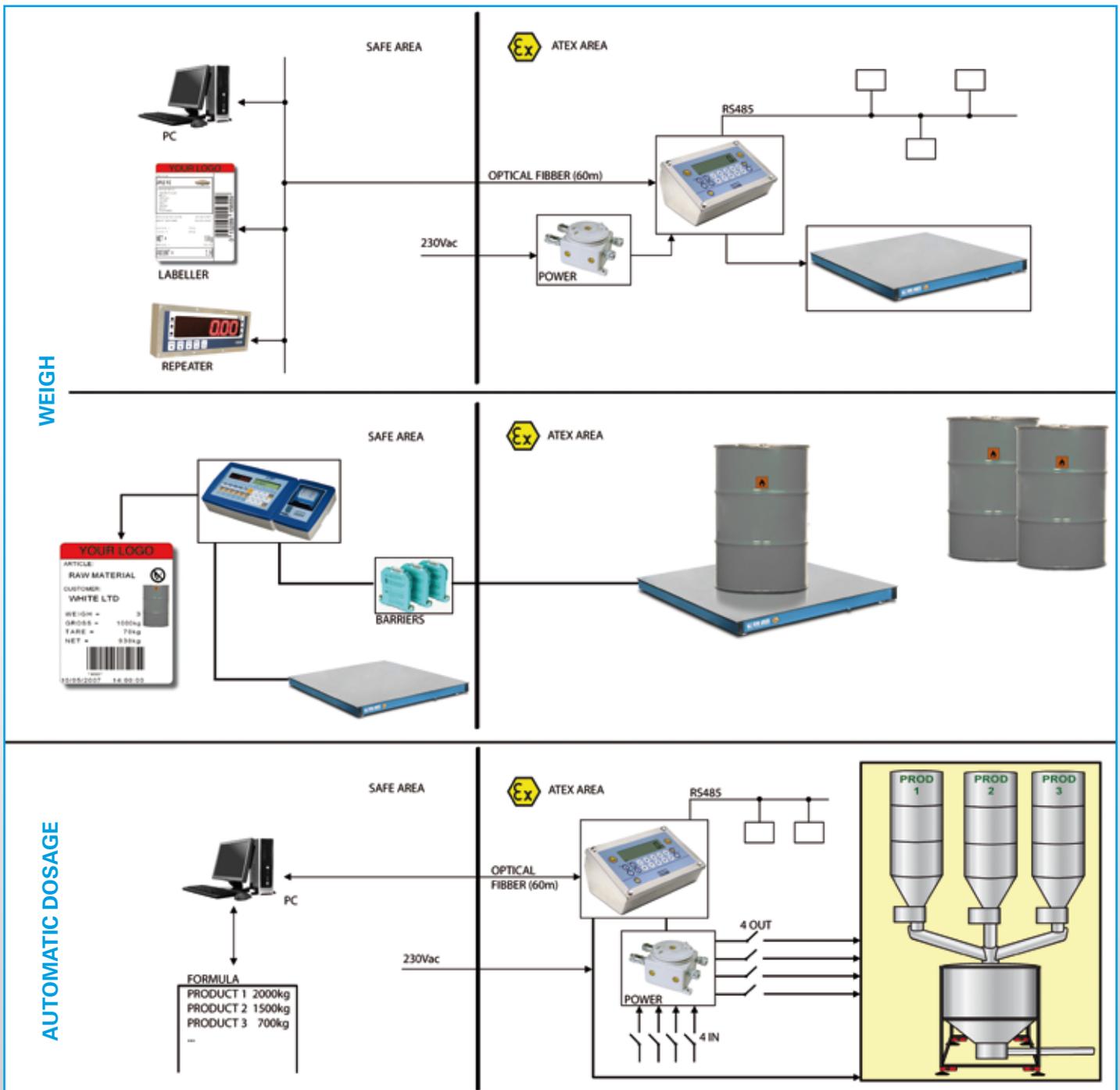
The DINI ARGEO ATEX Solutions

Dini Argeo s.r.l offers weighing solutions for hazardous environments classified by the ATEX 99/92/CE directives.

From the design of the electronic boards to the production of indicators, load cells, platforms, pallet truck scales, crane scales, and accessories, Dini Argeo srl offers a wide range of devices for ATEX zones.

Dini Argeo is also able to supply each certification or declaration of conformity of the whole system, in order to guarantee to the customer the safety of the purchased system and at the same time supply a complete service in order to speed up the development or installation time.

EXAMPLES OF SOLUTIONS:



Product Summary Table:

PRODUCT	TYPE	PROTECTION DEGREE	GASES			DUSTS		
			II 1G (Zone 0)	II 2G (Zone 1)	II 3G (Zone 2)	II 1D (Zone 20)	II 2D (Zone 21)	II 3D (Zone 22)
DFWATEX2GD	INDICATOR	II 2G EEx ia IIC T4 II 2D Ex tD A21 IP65 T197°C		•	•		•	•
DFWATEX3GD	INDICATOR	II 3G EEx nR IIC T6 II 3D Ex tD A22 IP68 T130°C			•			•
3590XT3GD	INDICATOR	II 3G EEx nR IIC T6 II 3D Ex tD A22 IP68 T135°C			•			•
DGT603GD	INDICATOR	II 3G EEx nR IIC T6 II 3D Ex tD A22 IP68 T130°C			•			•
TRIXT3GD	INDICATOR	II 3G EEx nR IIC T6 II 3D Ex tD A22 IP68 T135°C			•			•
DFWLI3GD	INDICATOR	II 3G EEx nR IIC T6 II 3D Ex tD A22 IP68 T130°C			•			•
TPWX2GD	PALLET TRUCK	II 2GD IIB T4 T197°C X		•	•		•	•
TPWX3GD	PALLET TRUCK	II 3GD IIC T6 T130°C X			•			•
MCWATEX	CRANE SCALE	II 2G IIC T4 X		•	•		•	•
MB4	ZENER BARRIERS	II (1) GD [EEx ia] IIC (-20°C ≤ Ta ≤ +60°C)	•	•	•	•	•	•
PW200XRD	POWER SUPPLIER	II (2)/2 G [EEx ib]/EExd IIC T4 II (2)/2 D [EEx ib]/tD A21 T140°C		•	•		•	•
DFWBP76ATEX	RECHARGEABLE BATTERY	II 2G EEx ia IIC T4 II 2D Ex tD A21 IP65 T197°C		•	•		•	•
JB4QAI	JUNCTION BOX	II 2G Ex ib IIC T6 II 2D Ex tD A21 IP65 T115°C		•	•		•	•
LOAD CELLS	LOAD RECEPTORS	II 1G EEx ia IIC T6 (Ta -20÷+40°C) TX (Ta -20÷+65°C) II 1D tD A20 TX°C (Ta -20÷+40°C) TX°C (Ta -20÷+65°C)	•	•	•	•	•	•
PLATFORMS	WEIGHING MODULES	II 2GD c IIC T6 85°C		•	•		•	•

MCWATEX electronic crane scales

MCWATEX

ZONES
1 & 21

ZONES
2 e 22

- They are quickly installed on the lifting system (cranes, crane bridges, etc.)
- Designed and built using optimum distance between upper ring and lower hook.
- The whole structure is in over-fire painted steel guaranteeing the maximum resistance to accidental knocks.
- Great resistance to overloads.
- Standard fitted with an upper ring and lower hook.



INTRINSICALLY SAFE
RECHARGEABLE BATTERY

PROTECTION: Ex II 2G IIC T4

CAPACITY: Up to 35000kg.

DIVISION: Up to 1 Kg.

PRECISION: 0.03% of the full scale range.

BATTERY LIFE: About 160h / 4800 weighings.

FUNCTIONS: Simple weighing, totalisation, weight hold function on the display.

ELECTRONICS: Intrinsically safe.



CE-M approvable
(DIN EN 61010-1)

TPWX "HAZARDOUS ZONES" pallet truck scales

For weighing quickly, directly where it is necessary. The TPWX pallet truck scales are precise, sturdy and easy to use. The dimensions are standardised for EUROPALLETS.

TPWX2GD

ZONES
1 & 21

ZONES
2 & 22



INTRINSICALLY SAFE
RECHARGEABLE BATTERY



CE-M approvable
(OIML R-76/EN 45501)

PROTECTION: Ex II 2GD IIB T4 T197°C X

CAPACITY: Up to 2500kg.
(special capacities upon request)

DIVISION: Up to 0,1kg.
(special divisions upon request)

PRECISION: $\pm 0.05\%$ of the full scale range.

BATTERY LIFE: About 150h / 4500 weighs.

FUNCTIONS: Simple weighing, totalisation and
formulation, counting.

ELECTRONICS: Intrinsically safe.

TPWX2GDI

ZONES
1 & 21

ZONES
2 & 22



INTRINSICALLY SAFE
RECHARGEABLE BATTERY



CE-M approvable
(OIML R-76/EN 45501)

INOX

PROTECTION: Ex II 2GD IIB T4 T197°C X

CAPACITY: Up to 2500kg.
(special capacities upon request)

DIVISION: Up to 0,1kg.
(special divisions upon request)

PRECISION: $\pm 0.05\%$ of the full scale range.

BATTERY LIFE: 150h / 4500 weighs.

STRUCTURE: Completely in STAINLESS steel.

FUNCTIONS: Simple weighing, totalisation and
formulation, counting.

ELECTRONICS: Intrinsically safe.

The indication of the weight is clear and easy to read.
The electronic parts are protected from knocks, sprays, and dust.

TPWX3GD

ZONES
2 & 22



CE-M
CE-M approvable
(OIML R-76EN 45501)

PROTECTION: Ex II 3GD IIC T6 T130°C X

CAPACITY: Up to 2000kg.
(special capacities upon request)

DIVISION: Up to 0,2kg.
(special divisions upon request)

PRECISION: $\pm 0.1\%$ of the full scale range.

BATTERY LIFE: About 40h / 1200 weighs.

FUNCTIONS: Simple weighing, totalisation and
formulation, counting, tolerance
check, percentage weighing.

TPWX3GDI

ZONES
2 & 22



CE-M
CE-M approvable
(OIML R-76EN 45501)

INOX

PROTECTION: Ex II 3GD IIC T6 T130°C X

CAPACITY: Up to 2000kg.
(special capacities upon request)

DIVISION: Up to 0,2kg.
(special divisions upon request)

PRECISION: $\pm 0.1\%$ of the full scale range.

BATTERY LIFE: About 40h / 1200 weighs.

STRUCTURE: Completely in STAINLESS steel.

FUNCTIONS: Simple weighing, totalisation and
formulation, counting, tolerance
check, percentage weighing.

Multifunction weight indicators

Suitable for the creation of weighing and dosage systems in hazardous areas, offering a wide range of functioning modes and interfaces for communicating with external devices, as well as a great versatility of use.

DFWATEX2GD

ZONES
1 & 21

ZONES
2 & 22



CE-M approveable
(OIML R-76/EN 45501)

PROTECTION: Ex II 2G EEx ia IIC T4 for GASES
Ex II 2D Ex tD A21 IP65 T197°C for DUSTS

FUNCTIONS: Simple dosages (setpoint), totalisation, formulation, counting, data transmission, input/output weighing.

INPUT / OUTPUT: 4 inputs + 4 programmable outputs.

DATA TRANSMISSION: Through fiber optics, up to 60m (longer distances available upon request). Alibi memory for approved weight transmission.

POWER SUPPLY: 12 Vdc through the intrinsically safe PW200XRD power adapter.

CELL INPUTS: 4 independent inputs, for managing a single weighing system or for the equalisation of 4 load cells.

CONNECTABLE CELLS: Up to eight 350 Ohm load cells.

ELECTRONICS: Intrinsically safe.

3590XT3GD

ZONES
2 & 22



CE-M approveable
(OIML R-76/EN 45501)

PROTECTION: Ex II 3G EEx nR IIC T6 for GASES
Ex II 3D Ex tD A22 IP68 T135°C for DUSTS

POWER SUPPLY: 12 Vdc.

DISPLAY: LED display for clear weight visualisation + LCD display for visualisation of user messages.

FUNCTIONS: For complex industrial applications, where, together with a simple weighing, there is the need for an advanced management of databases, totals and printouts. Wide range of software applications, for totalisation, counting, input/output weighing, statistical checking, price computing and dosage. Particularly suitable also for interfacing with the PC software.

INPUT / OUTPUT: 8 inputs + 16 programmable outputs.
16 bit analogue output, programmable as 0...10Vdc, 0...20mA, and 4...20mA.

DATA TRANSMISSION: 3 available serial ports: RS232/Ethernet/RS485. Alibi memory for approved weight transmission.

CELL INPUTS: 4 independent inputs for managing up to 4 weighing systems or for equalising 4 load cells.

CONNECTABLE CELLS: Up to sixteen 350 Ohm load cells.

DFWATEX3GD

ZONES
2 & 22



CE-M approvable
(OIML R-76/EN 45501)



INOX

PROTECTION: Ⓢ II 3G EEx nR IIC T6 for GASES
Ⓢ II 3D Ex tD A22 IP68 T130°C for DUSTS

FUNCTIONS: Simple dosages (setpoint), totalisation, formulation atolerance check, weigh percentage, input/output weighing, data transmission.

INPUT / OUTPUT: 4 inputs + 4 programmable outputs.
16 bit analogue output, programmable as 0...10Vdc, 0...20mA, and 4...20mA.

DATA TRANSMISSION: RS232/Ethernet for connection to PC.
RS232 for data transmission to printer or labeller in safe area.
Alibi memory for approved weight transmission.

POWER SUPPLY: 12 Vdc.

CELL INPUTS: 4 independent inputs, for managing a single weighing system or for the equalisation of 4 load cells.

CONNECTABLE CELLS: Up to eight 350 Ohm load cells.

DGT603GD

ZONES
2 & 22



CE-M approvable
(OIML R-76/EN 45501)



INOX

PROTECTION: Ⓢ II 3G EEx nR IIC T6 for GASES
Ⓢ II 3D Ex tD A22 IP68 T130°C for DUSTS

POWER SUPPLY: 12 Vdc.

DISPLAY: Maxi 6-digit 60mm very bright matrix display, made up of a highly efficient SMT LEDs, clearly visible from a distance and from all angles; brightness: 750mcd.
Brightness intensity adjustable directly through the software.

FUNCTIONS: Simple dosages (setpoint), totalisation, formulation, counting, tolerance check, percentage weighing, input/output, data transmission. Usable also as a weight repeater, with a configurable input string.

INPUT / OUTPUT: 4 inputs + 4 programmable outputs.
16 bit analogue output, programmable as 0...10Vdc, 0...20mA, and 4...20mA.

DATA TRANSMISSION: RS232/Ethernet and RS485/PROFIBUS.
The Modbus RTU protocol is available.
Alibi memory for approved weight transmission.

CELL INPUTS: 4 independent inputs, for managing a single weighing system or for equalising 4 load cells.
Connection with up to sixteen 350 Ohm load cells.

CONNECTABLE CELLS: Up to sixteen 350 Ohm load cells.

TRIXT3GD

ZONES
2 & 22



CE-M approvable
(OIML R-76/EN 45501)



INOX

PROTECTION: Ex II 3G EEx nR IIC T6 for GASES
Ex II 3D Ex tD A22 IP68 T135°C for DUSTS

FUNCTIONS: Simple dosages (setpoint), totalisation, formulation, counting, tolerance check, percentage weighing, data transmission.

INPUT / OUTPUT: 2 inputs + 2 programmable outputs.
16 bit analogue output, programmable as 0...10Vdc, 0...20mA, and 4...20mA.

DATA TRANSMISSION: RS232/Ethernet for connection to PC.
RS232 for data transmission to printer or labeller in safe area.
Alibi memory for approved weight transmission.

POWER SUPPLY: 12 Vdc.

CELL INPUTS: 1 input, for managing a single weighing system.

CONNECTABLE CELLS: Up to six 350 Ohm load cells.

DFWLI3GD

ZONES
2 & 22



CE-M approvable
(OIML R-76/EN 45501)



INOX

PROTECTION: Ex II 3G EEx nR IIC T6 for GASES
Ex II 3D Ex tD A22 IP68 T130°C for DUSTS

FUNCTIONS: Totalisation, formulation, counting, tolerance check, percentage weigh, data transmission.

INPUT / OUTPUT: 2 inputs + 2 programmable outputs.

DATA TRANSMISSION: RS232 for connection to PC.
RS232 for data transmission to printer or labeller in safe area.
Alibi memory for approved weight transmission.

POWER SUPPLY: 12 Vdc.

CELL INPUTS: 4 independent inputs, for managing a single weighing system or for equalising 4 load cells.

CONNECTABLE CELLS: Up to eight 350 Ohm load cells.

Intrinsically Safe Power Supplier

For powering your weighing system with an intrinsically safe device which guarantees the maximum safety inside the hazardous area.

PW200XR

ZONES
1 & 21

ZONES
2 & 22



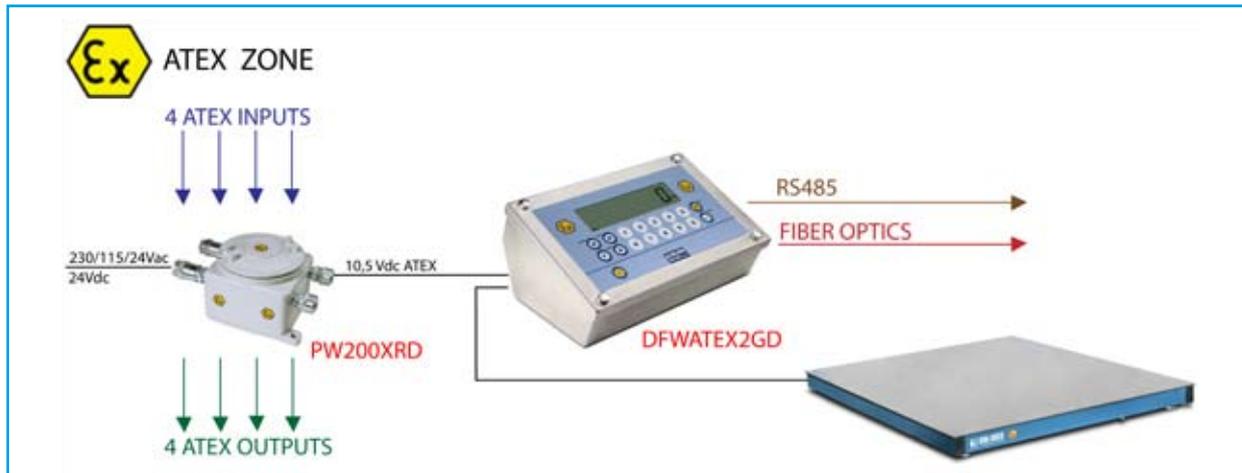
PROTECTION: Ex II (2)/2 G [EEx ib]/EExd IIC T4 for GASES
 Ex II (2)/2 D [EEx ib]/tD A21 T140°C for DUSTS

OUTPUT VOLTAGE: 10,5Vdc for DFWATEX2GD indicator.

INPUT VOLTAGE: 24Vdc, 24Vac, 115Vac or 230Vac.

ELECTRONICS: Intrinsically safe.

APPLICATION SYSTEM:



Intrinsically Safe Rechargeable Batteries

Studied for mobile weighing systems or for zones in which there is no possibility to power the scale with a mains voltage.

DFWBP76ATEX

ZONES
1 & 21

ZONES
2 & 22



PROTECTION: Ex II 2G EEx ia IIC T4 for GASES
 Ex II 2D Ex tD A21 IP65 T197°C for DUSTS

OUTPUT VOLTAGE: 10,5Vdc.

OUTPUT CURRENT: 7,6Ah.

BATTERY LIFE: Up to 160h.
(depending on the system configuration)

ELECTRONICS: Intrinsically safe.

Platforms, Load Cell and Accessories

WEIGHING PLATFORMS

ZONES
1 & 21

ZONES
2 & 22

Dini Argeo offers a complete range of platforms designed for use in hazardous areas, with capacities which range from 1,5kg to 10t, with divisions starting from 0,05g.

PLATFORMS: Ex II 2GD c IIC T6 85°C



CE-M approvable
(OIML R-76EN 45501)

LOAD CELLS

ZONES
0 & 20

ZONES
1 & 21

ZONES
2 & 22

The range of load cells certified for hazardous environments allows to create weighing systems for applications which range from dosing to logistics, from lifting to high precision, with capacities from 3kg to 80t. The assembly KITS are also available, simplifying the installation of the cell; these also are certified for ATEX zones.

LOAD CELLS Ex II 1G EEx ia IIC T6 (Ta -20 ÷ +40°C) TX (Ta -20 ÷ +65°C) for GASES

CAPACITIES: from 3kg to 80t

PROTECTION: Ex II 1D tD A20 TX°C (Ta -20 ÷ +40°C) TX°C (Ta -20 ÷ +65°C) for DUSTS

KIT PROTECTION: Ex II 2GD c IIC T6 85°C



CE-M approvable
(OIML R-76EN 45501)

ZENER BARRIERS

ZONES
0 & 20

ZONES
1 & 21

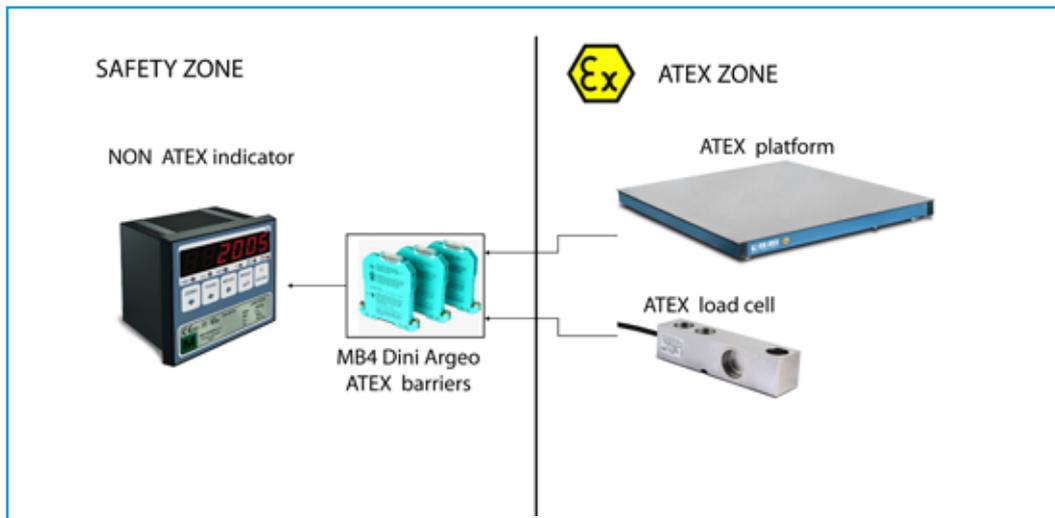
ZONES
2 & 22



To be used to bring in the safe zone, signals coming from the hazardous area.

PROTECTION: Ex II (1) GD [EEx ia] IIC (-20°C ≤ Ta ≤ +60°C)

APPLICATION SYSTEM:



JB40AI EQUALISED JUNCTION BOX

ZONES
1 & 21

ZONES
2 & 22



To be used for the creation of load receptors for 2, 3, or 4 load cells.

PROTECTION: Ex II 2G Ex ib IIC T6 for GASES
 Ex II 2D Ex tD A21 IP65 T115°C for DUSTS

CASE: IP66 stainless steel.

ELECTRONICS: Intrinsically safe.

Analysis of the system, certificates, and declarations of conformity

Besides the range of devices for weighing in hazardous areas, Dini Argeo offers a free pre-sales service addressed to the creation of a custom-made for the customer's needs. Once one has identified the classification of the hazardous area in which the scale will be installed as well as the desired weighing application, our authorised technical personnel will suggest the best solution for satisfying your requirements with our products.

Each single scale or component for weighing is accompanied by the relative certificate or declaration of conformity, as a guarantee of safety.

Each weighing system can also be supplied with a relative declaration of conformity of the whole.

The main available declarations of conformity are:

- *ATEX declaration of conformity of the whole system which allows to use the mechanical structure in the hazardous area. (DCATEXMECH)*

An example of a mechanical structure can be a KIT for installing a cell with a relative ATEX load cell or a platform, with a junction box and 4 ATEX load cells. This certification is useful, when, for example one purchases from Dini Argeo only the load receptor (i.e. the platform).

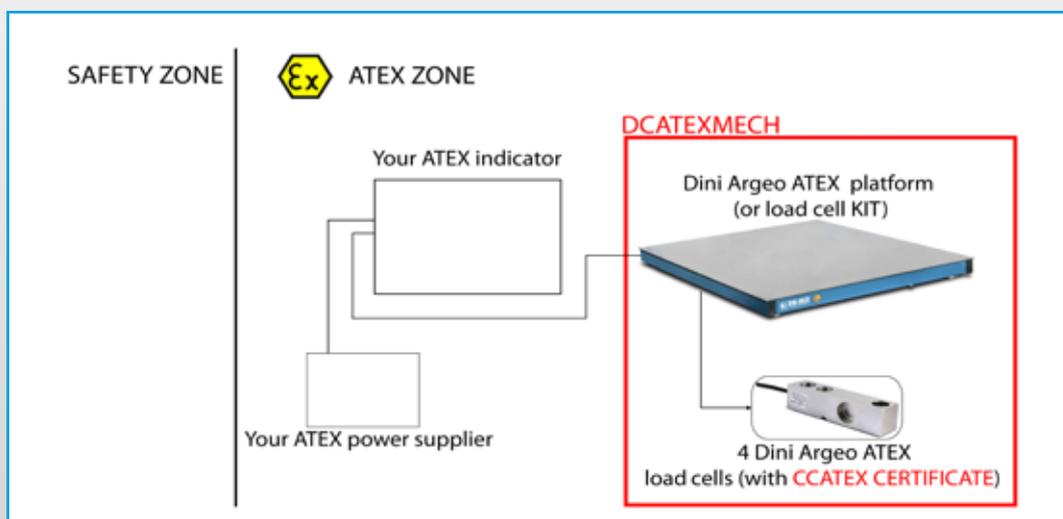
- *ATEX declaration of conformity of the whole system which allows to install the platform or the load cells in a hazardous area and the weight indicator in the safe area, with the aid of the ZENER barriers. (DCATEXMB4)*

- *ATEX declaration of conformity of the whole system for a weighing system completely installed in a hazardous area. (DCATEXMB4)*

An example of a weighing system is a weight indicator powered by battery or power supplier, connected to a junction box with 4 load cells or to a weighing platform.

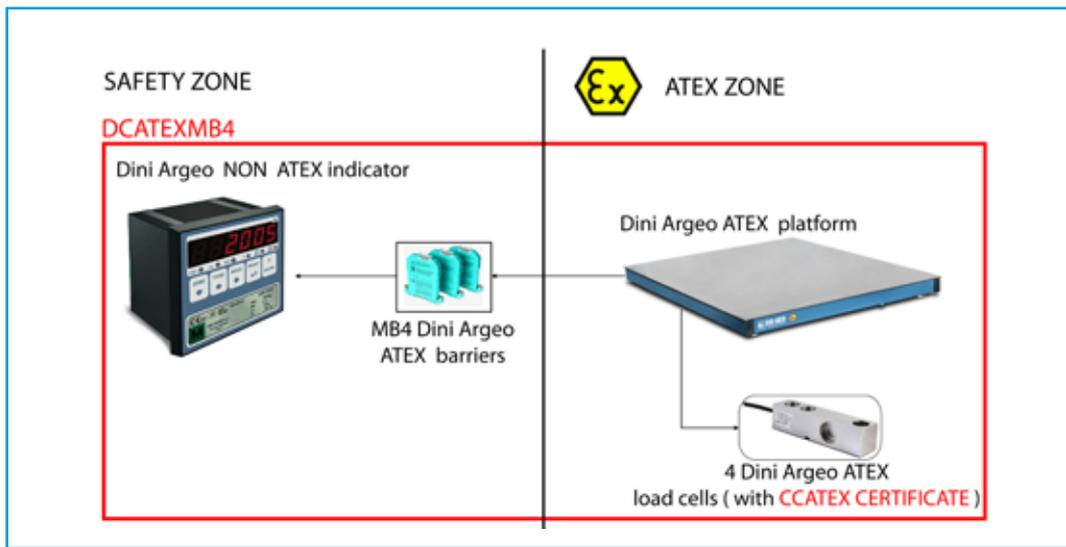
DCATEXMECH (for gases and dusts)

Declaration of ATEX conformity of the whole Ex II 2GD X system, with relative label of the whole system, for the mechanical structure (platform or assembly kit) with ATEX load cells and junction box of the Dini Argeo range.



DCATEXMB4 (for gases and dusts)

Declaration of ATEX conformity of the whole Ex II 2GD IIC T6 T125°C X system, with relative label of the whole system, for NON ATEX weight indicator connected to MB4 Dini Argeo zener barriers, connected to a mechanical structure with ATEX load cells and junction box of the Dini Argeo range.

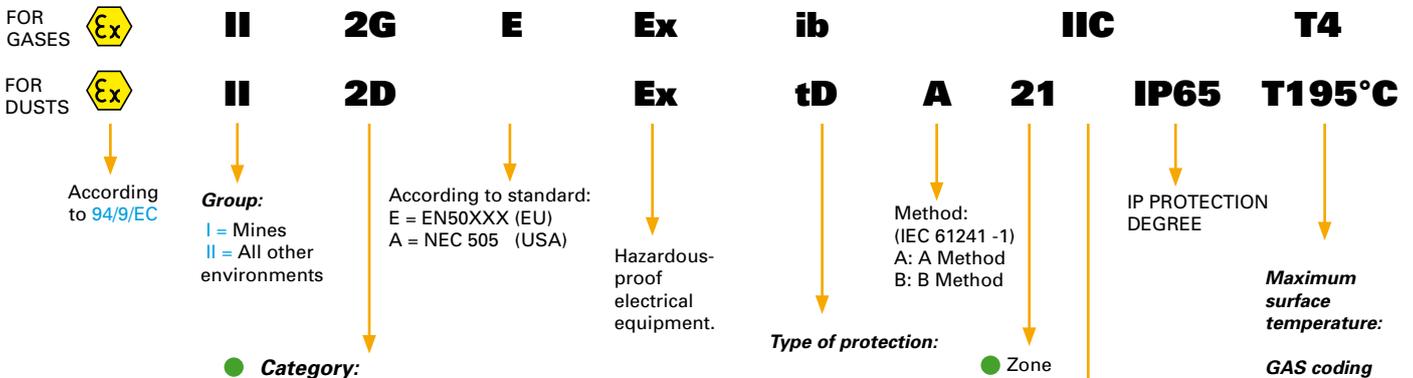


DCATEX2GD (for gases and dusts)

Declaration of ATEX conformity of the whole Ex II 2GD IIC T4 T197°C system, with relative label of the whole system, for ATEX Ex II 2GD weight indicator connected to the mechanical structure with ATEX load cells and junction box of the Dini Argeo range.



Decoding example of an ATEX marking (DFWATEX2GD):



● Instrument Category:	Atmosphere G = Gases D = Dusts	Instrument to be used in
CATEGORY 1 Very high protection, for areas which are permanently or highly probable to be hazardous (zones 0 & 20).	G D	Zone 0 Zone 20
CATEGORY 2 High protection, for areas that are probably hazardous (zones 1 & 21).	G D	Zone 1 Zone 21
CATEGORY 3 Normal protection, for areas which are unlikely to be hazardous (zones 2 & 22).	G D	Zone 2 Zone 22

GASES:
 ia/ib: Intrinsic safety
 q: Filling of dust
 m: Encapsulation
 o: Immersion in oil
 e: Increased safety
 d: Flameproof
 p: Pressurisation
 nA: Non sparking
 nC: Sparkling protected
 nR: Limited respiration
 nZ: Type n pressurisation

DUSTS:
 pD: Internal overpressure
 tD: Through case
 iaD/ibD: Intrinsic safety
 mD: Encapsulation

EU coding:
Type of GASES
 I: Methane
 IIA: Propane
 IIB: Ethylene
 IIC: Hydrogen

USA coding:
Category:
 I = Mines (methane)
 II = All other environments
 III = Fibers

Gases:
 A: Acetilene
 B: Hydrogen
 C: Ethylene
 D: Propane

Dusts:
 E: Metal dust
 F: Coal dust
 G: Wheat dust

GAS coding (EU):
 T1: 450°C
 T2: 300°C
 T3: 200°C
 T4: 135°C
 T5: 100°C
 T6: 85°C

GAS coding (USA):
 T1: 450°C
 T2: 300°C
 T2A: 280°C
 T2B: 260°C
 T2C: 230°C
 T2D: 215°C
 T3: 200°C
 T3A: 180°C
 T3B: 165°C
 T3C: 160°C
 T4: 135°C
 T4C: 120°C
 T5: 100°C
 T6: 85°C

NOTE: in the marking, eventual brackets (...) or [...] indicate an associated electrical apparatus.

The information in this document is approximate and can be subject to variations without prior notice by Dini Argeo, with respect of the norms in force. The official technical data is available in the updated version on the www.diniargo.com web site or by contacting the Dini Argeo Customer Service.

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