Ministry of Business, Innovation & Employment

Wellington, New Zealand

CERTIFICATE OF APPROVAL

Weights and Measures Regulations 1999
Part 1 Regulations 5 and 6

Current Date of Issue: 20 August 2021
Original Date of Issue: 06 March 2014

Certificate 2147

Overseas Certificate No: OIML R76/2006-GB1-11.02

This certifies that the Dini Argeo 3590E, CPWE, DFW and DGT Series (Digital Indicators), Instrument described overleaf has been approved as suitable for trade use subject to any conditions stated in the schedule:

Figure 1 - Model 3590EGT Digital Indicator

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Under delegated authority from the Chief Executive of The Ministry of Business, Innovation & Employment

Note: This is not an approval to any person but only with respect to the type and pattern of weight, measure, or weighing or measuring instrument.

SCHEDULE

Pattern:	Weighing Instrument
Make:	Dini Argeo
Model:	3590E, CPWE, DFW and DGT Series (Digital Indicators)
Submitter:	Scaletec, Woodville
Class:	III or IIII
Conditions of Approval:	1. The approval does not include the use of the indicator as an automatic weighing instrument. 2. Any additional features such as counting, target weighing, accumulation, set-point, batching, peak hold, percentage weighing and check-weighing are not approved for trade use. 3. This Certificate only covers compliance with respects to the relevant sections of the Weights and Measures Act and Regulations and should not be construed as guarantee of compliance with any safety requirements. 4. Trading Standards reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Description:

The Dini Argeo Model 3590E, CPWE, DFW and DGT Series digital indicators are approved to configure with a Class III or a Class IIII non-automatic weighing Instrument. A detailed information on scale intervals is shown in Table 1.

Table 1 – Maximum number of verification scale intervals:

Class III: ≤ 10 000 for single & multi-interval/range (maximum of 3 partial ranges, n ≤ 3000 max per range)

Class IIII: ≤ 1000 for single & multi-interval/range (maximum of 3 partial ranges, n ≤ 1000 max per range)

Various models covered under this approval are (Figures 1 to 5):
(i) Model 3590 Series:
- 3590EXP internal PSU
- 3590EXT
- 3590EGT

(ii) Model CPWE Series:
- CPWET
- CPWE
- CPWETF
- CPW

(iii) Model DFW Series:
- DFWK06XP & DFW06XP
- DFWK06XT & DFW06XT
- DFWR06XP
- DFWDXT
- DFWLID
- DFWL, DFWLI & DFWLKI

(iv) Model DGT Series:
- DGT1, DGT1AN, DGT4, DGT4AN & DGT4PB
- DGT60BC, DGT60AN, DGT60R & DGT60PB
- DGT20, DGT20AN & DGT20PB
- DGTPK, DGTPKAN, DGTPKPB, DGTPKF & DGTPKFAN
- DGTQ, DGTQAN, DGTQPB, DGTQF & DGTQFAN
- DGTP, DGTPAN & DGTPPB

TABLE 2 – Specifications

Maximum number of verification scale Intervals See Table 1
Minimum sensitivity 0.3 μV/scale interval
Excitation voltage 5 V DC
Minimum load cell impedance 20 Ω
Maximum load cell impedance 10 000 Ω
Measuring range minimum voltage 3 mV
Measuring range maximum voltage 30 mV
Fraction of maximum permissible error 0.5
Temperature range -10°C to +40°C
Load cell connection 4 or 6-core
Cable Length 50 m, junction box to indicator

NOTE: Model 3590E Series indicator may be connected through the serial line with up to 64 digital load cells of the following type:
(i) Flintec Model RC3D
(ii) HBM Model C16i
(iii) Scaime Model CB50X-DL
(iv) Dini Argeo Model RCD

Construction:
The indicators comprise a stainless steel or ABS enclosure with an option of LCD or LED type display and an operator interface key pad.

Display Check:
A display check is initiated whenever power is applied.

Power Supply:
The instruments operates from either:
- mains AC power, 230 V AC, or
- internal power supply 6 V DC

Interfaces:
The instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices.

Type of Interfaces:
- Load cell 4 or 6-wire shielded connection
- DC voltage input
- RS232/RS485
- Ethernet
- USB
- Wifi
- Control inputs/outputs
- Bluetooth
- Radio Frequency (RF)

Note: The Auxiliary devices shall meet the following conditions:
(i) have no function that would cause a variation in the display of the measured or computed quantities
(ii) is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation
Or
As indicated from time to time by Trading Standards.

Combined Multi-platform Weighing System:
Weighing instruments with different Dini indicators detailed in this certificate can be arranged and used in a network (Figure 6). In such setup the weighing system is configured with a series of up to 32 load receptors (each connected to its own indicator). The individual indicators feed the respective weight data to the main indicator (called weight repeater) which displays the total weight value. The main indicator can be used in

fixed position or it can be used as a protable device staying within the permitted RF range of up to 100 m (according to environment conditions).

In this kind of setup, the following restrictions apply:
(i) All the individual weighing instruments must have the same configuration and are verified/certified as a standalone instrument.
(ii) The weight display on the individual indicators must be disabled.

ZERO SETTING DEVICES:
Zero is automatically corrected to within ± 0.25e whenever power is applied and whenever the instrument comes to rest within 0.5e of Zero.

The Initial zero setting device of the pattern has a nominal range of not more than 20% of the maximum capacity of the instrument.

The Instrument has a semi-automatic zero setting device with a nominal range of not more than 4% of the maximum capacity of the instrument.

Zero tracking operates when the indication is at zero, or at a negative Net value equivalent to Gross zero, when the weight display is stable. The nominal range of zero-setting must not be more than 4% of the maximum capacity of the instrument.

TARE:
Instruments may have a subtractive semi-automatic or a pre-set tare device, each having a capacity of up to maximum capacity of the instrument (or Max1 for multi-interval).

METROLOGICAL MARKINGS:
Instruments carry the following markings:
Manufacturer's mark, or name:
Accuracy class: III or IIII
Pattern approval number: TS 2147
Maximum capacity Max .....kg #
Minimum capacity Min .....kg #
Verification scale interval e = ...kg #
Maximum subtractive tare T = - ……kg##
Serial number of the instrument ……..
These markings are also shown near the display of the result.
Tare is required if it is not equal to Max.

Sealing:	Calibration jumper 'J1' is provided on the main board within the indicator housing. The indicator housing must be sealed from opening by placing an approved type seal across the joining of the covers on both sides of the indicator (Figure 7).
Mark of Verification:	The approved type seal used to inhibit access to the calibration jumper shall carry a Mark of Verification. Removal of seal deems the instrument not verified.
Temperature:	-10°C to +40°C

Figure 2 - Model 3590EXP & Model 3590EXT

Figure 3 - Model CPWE Series

Figure 4 - Model DFW Series

DFWDXT (Display a LED)

DFWL

DFWLI

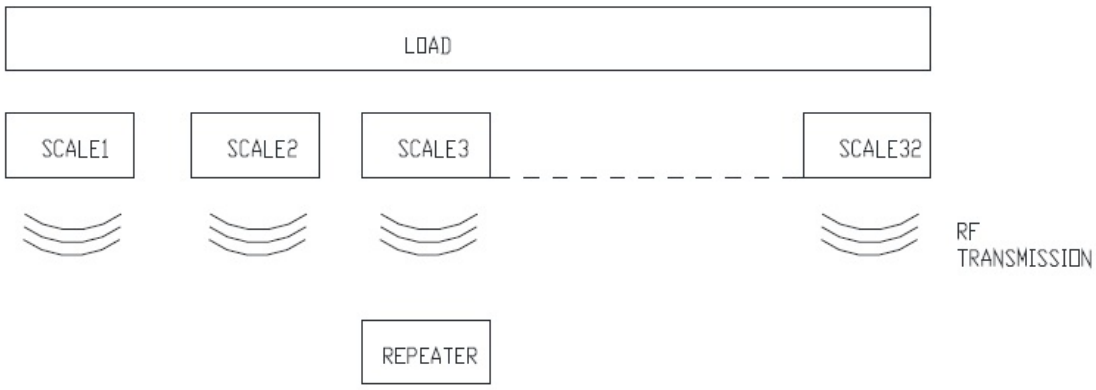
DFWLKI

DFWLID

Figure 5 - Model DGT Series

Figure 6 - Typical Combined Multi-platform Weighing System Setup

Example 1:



Example 2:

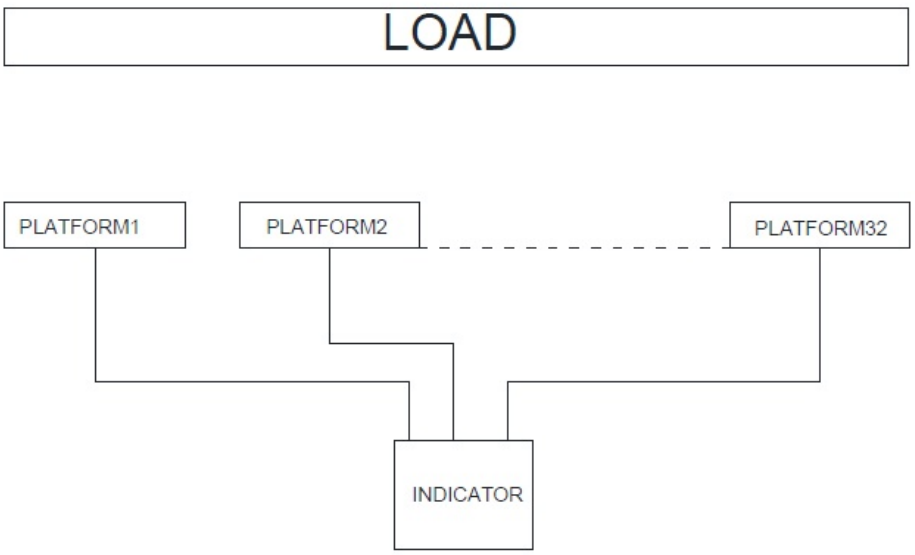
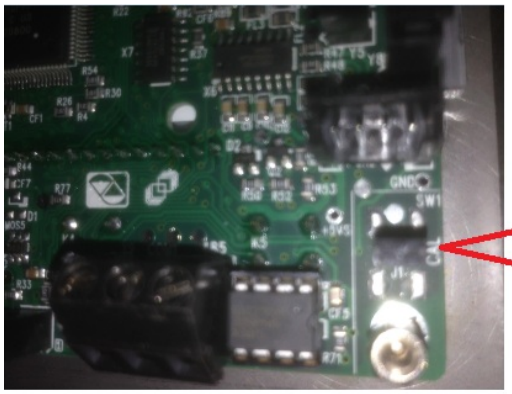
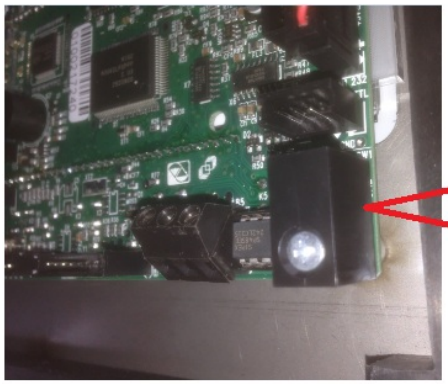


Figure 7 - Jumper Location & Typical Sealing Method



Sealing Method



SCHEDULE

Variant: 2147.1

Current Date of Issue: 20 August 2021

Overseas Certificate No: OIML R76/2006-GB1-11.02 Rev2 &
NMI S788

Pattern:	Indicating Device
Make:	Dini Argeo
Model:	3590 / DGT / DFW Series
Submitter:	Scaletec Limited (AP 71.0)
Class:	III or IIII
Conditions of Approval:	As detailed in approval certificate #2147

Description:

VARIANT 1:

The variant approves the following:

1. Additional models of 3590 series indicator

1.1 Model 3590ED: This model is similar to 3590EGT indicator (as detailed in certificate #2147) but built in stainless steel enclosure and a large LED type display to indicate weight value and an LCD display for pre-set tare and semi-automatic tare, net weight value and alphanumeric information. See figure 1(Variant 1).

1.2 Model 3590ET: This model is similar to 3590EGT indicator (as detailed in certificate #2147) but built in ABS enclosure and without a keypad. See figure 2(Variant 1).

1.3 Model 3590ETT: This model is similar to 3590EGT indicator (as detailed in certificate #2147) but built in a different style stainless steel enclosure. See figure 3(Variant 1).

1.4 Model 3590ET8: This model is similar to 3590ET but having a 8 inch LCD touch screen. See figure 4 (Variant 1).

1.5 Model 3590EGT8: This model is similar to 3590ETT but having a 8 inch LCD touch screen without alphanumeric keypad. See figure 5 (Variant 1).

1.6 Model 3590EGTB8: This model is similar to 3590EGT8 but having a panel mount type stainless steel enclosure. See figure 6 (Variant 1).

1.7 Model 3590EKTR: This model is a 3590ET series touch screen indicator, is housed in an ABS transport case. The indicator is fitted in a metallic rack type involucre with dimensions of 270x440mm, includes a printer, connectors for weighing platforms, and serial output on 9-pole connector. See figure 7 (Variant 1).

1.8 Model 3590EKR: This model is a 3590EXP series indicator is housed in an ABS transport case. The indicator is fitted in a metallic rack type involucre with dimensions of 270x440mm, includes a printer, connectors for weighing platforms, and serial output on 9-pole connector. See figure 8 (Variant 1).

2. Additional models of DGT series indicator

2.1 Model DGT1S: This model is similar to DGT20 indicator detailed in Cert #2147 but built in a plastic housing intended for mounting in a DIN style rail with 2 INPUTS and 2 OUTPUTS. Fitted with 5-key keypad and LED display and connectable with up to 8 analogue load cells with 350 Ohm input resistance. See figure 9 (Variant 1), sealing provision is shown in figure 10 (Variant 1).

2.2 Model DGT1SAN: This model is similar to DGT1S indicator with 2 INPUT, 2 OUTPUT and analog output. Fitted with 5-key keypad and LED display and connectable with up to 16 analogue load cells with 350 Ohm input resistance.

2.3 Model DGT4X: This model is similar to DGT1 detailed in Certificate #2147 with a provision to connect a number of load cells to the indicator. See figure 11 (Variant 1).

2.4 Model DGT20i: This model is similar to DGT20 detailed in Certificate #2147 but having a 304 grade stainless steel enclosure with 2 INPUT, 2 OUTPUT.

2.5 Model DGT20iAN: This model is similar to DGT20i indicator with 2 INPUT, 2 OUTPUT and analog output.

2.6 Model DGT100: This models are similar to DGT20 indicator detailed in Certificate #2147 but having a stainless steel enclosure with a 100 mm high LED matrix display. See Figure 12 (Variant 1).

The models covered under DGT100 range are:
• Model DGT100BC
• Model DGT100AN
• Model DGT100PB
• Model DGT100R

3. Additional models of DFW Series indicator

3.1 Model DFWATEX2GD, DFWATEX3GD and DFW-IECEX3D: This model of indicators have a stainless steel enclosure designed for hazardous environment, and has a 17 key functional key pad. See figure 13 (Variant 1).

3.2 Model DFWKRP: This model indicator is built in a plastic enclosure, includes a printer, connectors for weighing platforms all housed in an ABS transport case. See figure 14 (Variant 1).

Interfaces:
The instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices.

Note: The Auxiliary devices shall meet the following conditions:

(i) have no function that would cause a variation in the display of the measured or computed quantities
(ii) is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation
Or
As indicated from time to time by Trading Standards.

METROLOGICAL MARKINGS:
Instruments must carry the following markings:
Manufacturer’s mark, or name:
Accuracy class: III or IIII
Pattern approval number:
Maximum capacity Max .....kg #
Minimum capacity Min .....kg #
Verification scale interval e = ...kg #
Maximum subtractive tare T = - ……kg##
Serial number of the instrument ……..
These markings are also shown near the display of the result.
Tare is required if it is not equal to Max.

Components:

- 3590 Series: 3590ED, 3590ET, 3590ETT, 3590ET8, 3590EGT8, 3590EGTB8, 3590ETKR, 3590EKR
- DGT Series: DGT1S, DGT1SAN, DGT4X range, DGT20i, DGT20iAN, DGT100BC, DGT100AN, DGT100PB, DGT100R
- DFW Series: DFWKRP, DFWATEX2GD, DFWATEX3GD, DFW-IECEX

Sealing:

The indicator housing must be sealed from opening by placing an approved type seal across the joining of the covers on both sides of the indicator or using a wire and lead type seal to seal one of the case screws. E.g. See Figure 10 (Variant 1) - Typical Sealing Provision for Model DGT1S Indicator

Mark of Verification:

The approved type seal used to inhibit access to the calibration jumper shall carry a Mark of Verification. Removal of seal deems the instrument not verified.

Figure 1 (Variant 1) - Model 3590ED Indicator

Figure 2 (Variant 1) - Model 3590ET Indicator

Figure 3 (Variant 1) - Model 3590ETT Indicator

Figure 4 (Variant 1) - Model 3590ET8 Indicator

Figure 5 (Variant 1) - Model 3590EGT8 Indicator

Figure 6 (Variant 1) - Model 3590EGTB8 Indicator

Figure 7 (Variant 1) - Model 3590ETKR Indicator

Figure 8 (Variant 1) - Model 3590EKR Indicator

Figure 9 (Variant 1) - Model DGT1S Indicator

Figure 10 (Variant 1) - Typical Sealing Provision for Model DGT1S Indicator

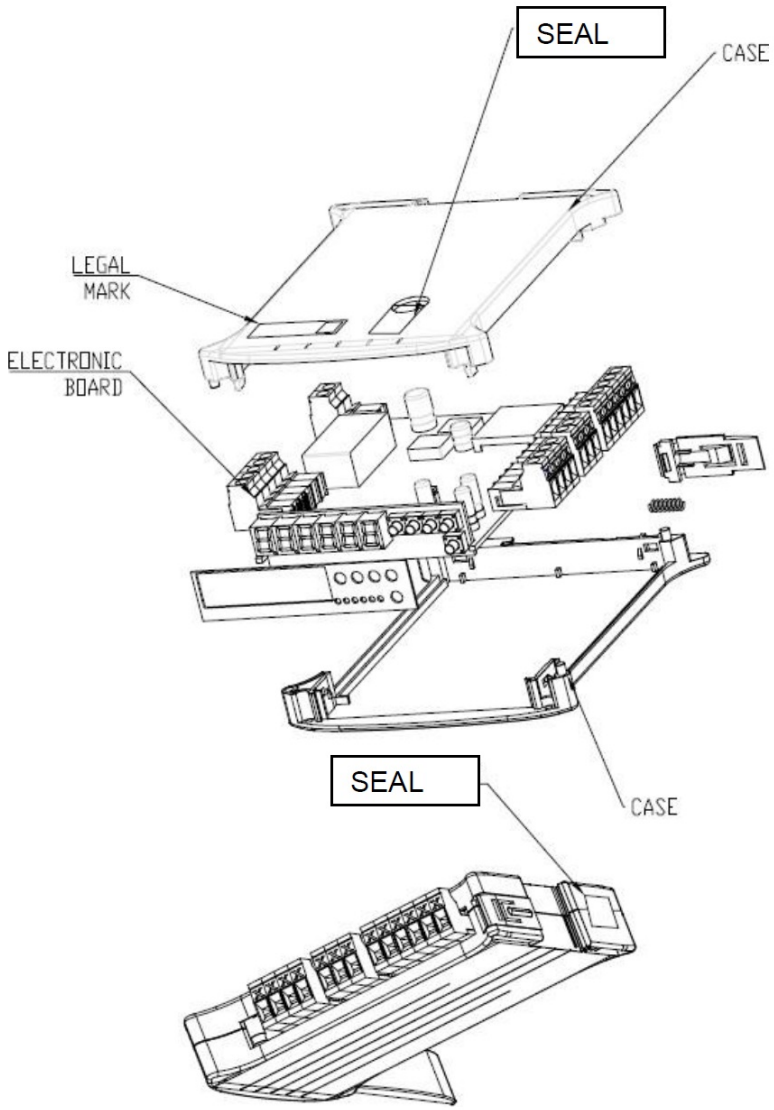


Figure 12 (Variant 1) - Model DGT100 Indicator

Figure 13 (Variant 1)

Figure 14 (Variant 1) - Model DFWKRP Indicator