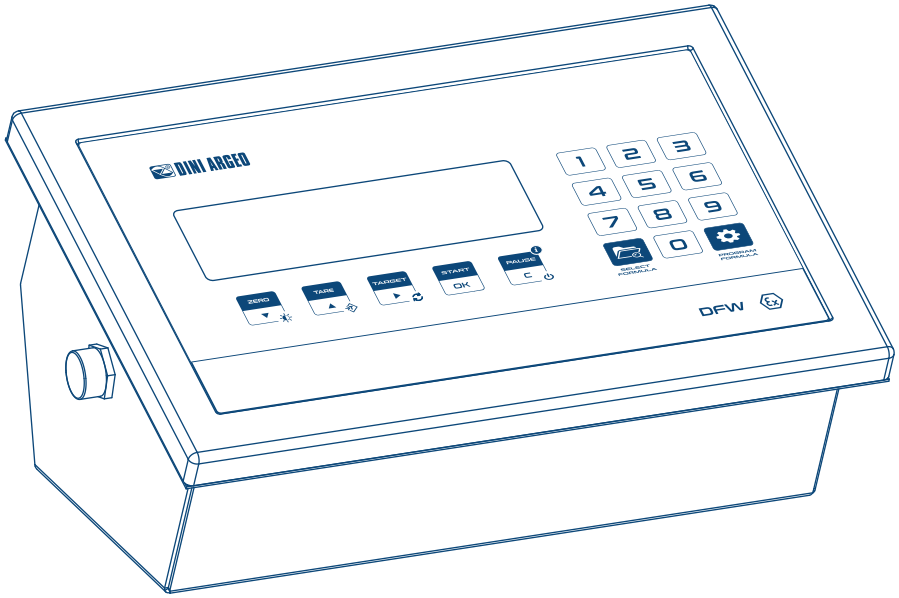
DINI ARGEO
Scales - Weighing systems

DFWIECEX BATCH1

Program for mono component loading dosage systems

USER MANUAL **ENGLISH**



www.diniargeo.com

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Introduction

Dear Customer,
Thank you for purchasing a DINI ARGEO product.

This document is intended to be read in conjunction with the DFWIEXEX Tecchnical and User Manuals.
This manual describes the configuration of the BATCH1 weighing program; specific for weight and formulation accumulation.
It describes parameters and configurable values while providing practical programming examples, to help the technician while installing the indicator.

It is essential to read and understand this document to operate in the safest way. Carefully follow the instructions for programming the weight transmitter; performing actions not indicated in this manual could compromise the proper functioning of the scale.
The utmost care has been taken in compiling this manual, but reports of any inaccuracies are always welcome. The transmitter is covered by warranty and MUST NOT BE TAMPERED WITH BY THE USER under any circumstances. Any attempt at repair or modification mayexpose the user to electric shock and voids warranty conditions, relieving the Manufacturer from all liability.
Any problem with the product must be reported to the manufacturer or to the retailer where it was purchased.
Always TURN OFF THE POWER SUPPLY before performing installation, maintenance, or repairs.

For any additional information or a specific request, do not hesitate to contact your retailer.

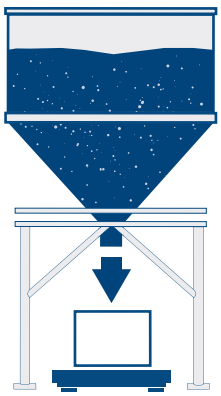
This document has been optimised for printing in A4 format.

About Batch1

DFWIECEX Batch1 provides the following features:

- Mono component loading dosage
- 50 formula database or Mono-formula mode with quick target change
- Dedicated keys for main dosage functions
- Start, pause and reset from keyboard or from remote buttons
- 12 digital outputs for dosage management
- Quick Setup
- Two level password
- Lance control
- 3 stage dosage speed control

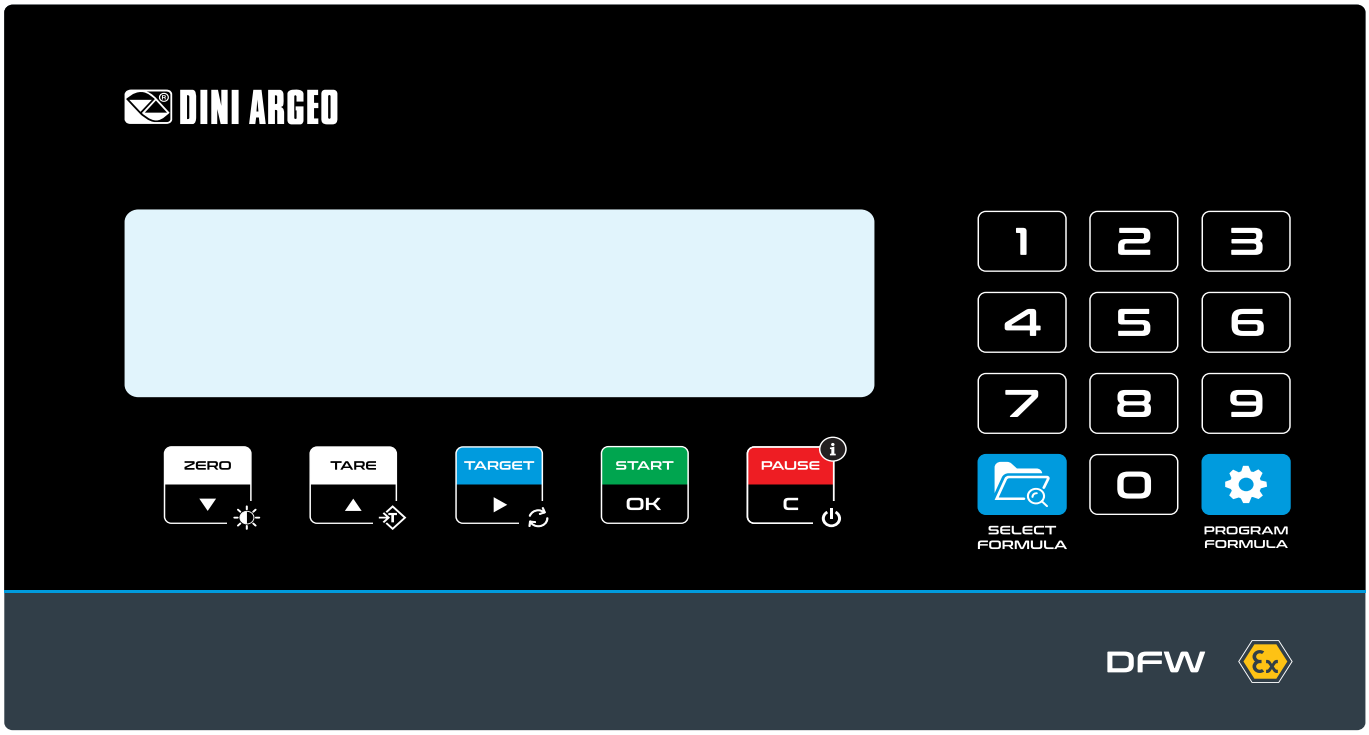
Loading dosage:

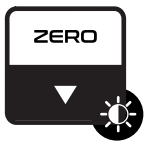
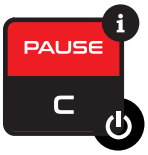


What are the dosing methods?

- manual dosing: performed by an operator
- automatic dosing: performed automatically by activating appropriate digital outputs

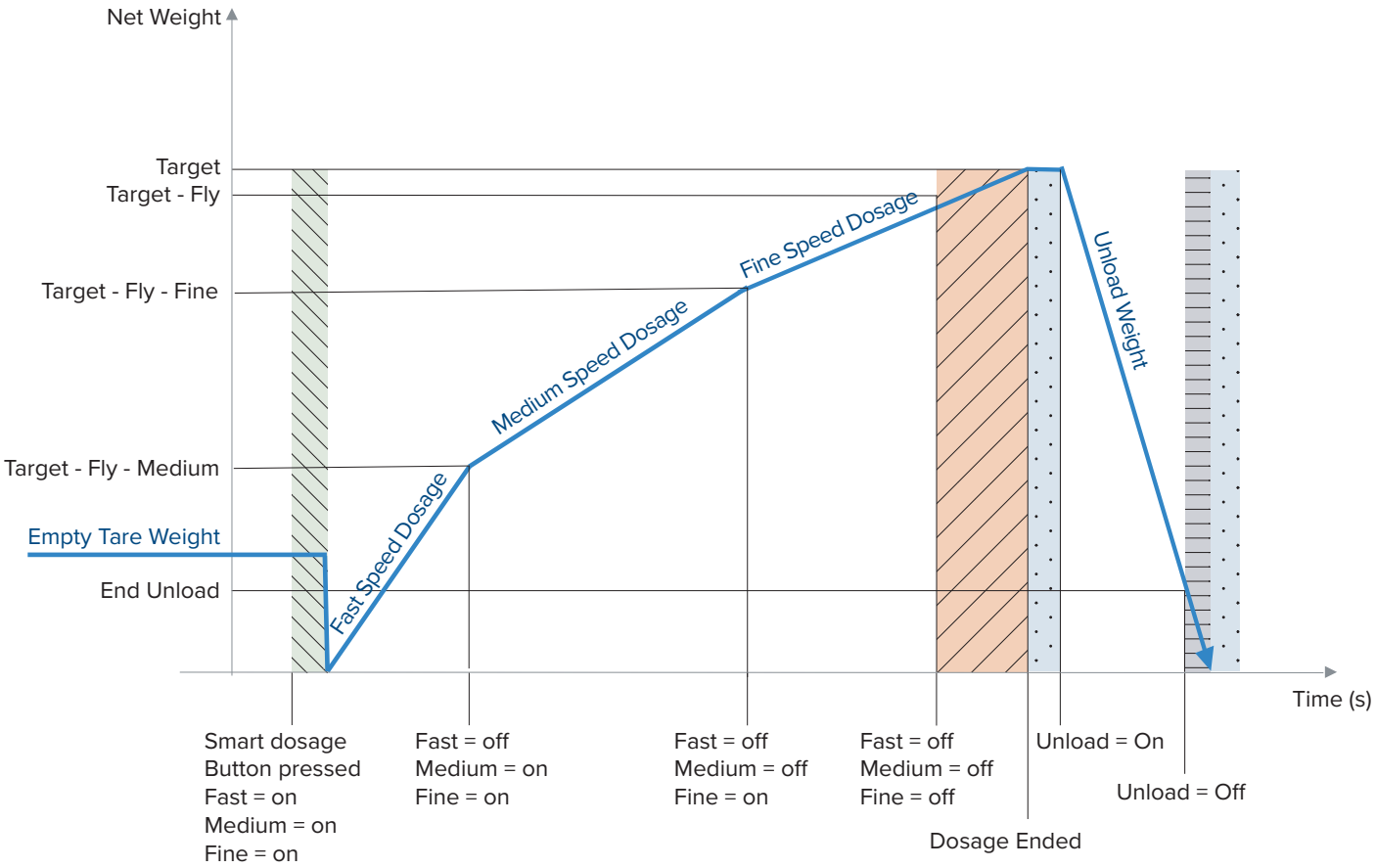
DFWIECEX Buttons



Item	Description	Item	Description
	Zeros outside the dosage cycle. Scrolls down through the menu.		Pauses dosage (resets dosage if paused) Returns to previous level in menu or cancels. Hold for 2 seconds to turn off the DFWIECEX.
	Tares outside the dosage cycle Scrolls up through the menu.		Press once to access the Formula database.
	Sets a different target for the selected formula. Or, if database function is off, sets the dose quantity. Scrolls right in the menu.		Press to access the Program Formula database. Press for 5 seconds to access the Program Dosage menu.
	Start dosage Confirms selection in menu.		Inputs 0 - 9 characters.

Dosage Process Diagram

The following example shows synchronized dosage outputs:

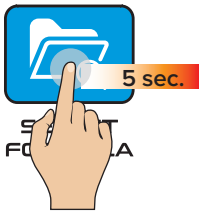


y.StArt	Wait stability	rEAd.y	Wait for remote devices data reading
yt.FLY	Wait for weight in flight	y.u.LoAd	Wait for end of unload

Program Dosage Menu and Parameters

1. Turn on the scale.

2.Press for five seconds to access the Program Dosage menu.



3. Program Dosage menu displays:

A CAL
B 0.CAL
C doSAGE
D PrEC 10
E FiLtEr
F tArE
G rESEt
H diAG
I Pin.uSE
J Pin.db

i If the menu is password protected, it is only possible to access it by entering it. Alternatively, you can access a partial setup reserved for diagnostics.

How to enter Program Dosage Menu

1. 5 Sec.

PROGRAM FORMULA

How to browse

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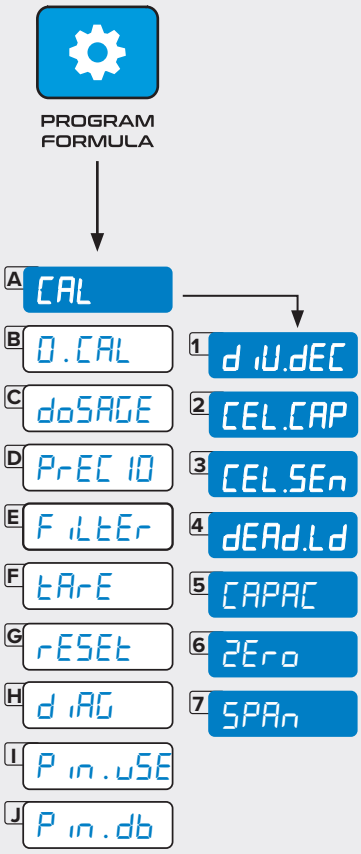

CAL - Calibration

Item	Description
diU.dEC	Sets the scale resolution and the decimal point position. Resolution is set from 0,001 to 50
CEL.CAP	Sets the total capacity of all load cells For example, 4 load cells with a 1000 kg capacity, would be set as 4000 kg. *i* Note: This parameter is for theoretical calibration.
CEL.SEn	Sets the load cell sensitivity in mV/V. If multiple load cells are connected in parallel in a junction box, insert the sum of signals. *i* Note: This parameter is for theoretical calibration.
dEAd.Ld	Insert the dead load. If this is unknown, use the 0.CAL step. *i* Note: This parameter is for theoretical calibration.
CAPAC	Sets the maximum capacity (kg) of the scale
2Ero	Acquisition of Zero point. Completely independent from Span acquisition. *i* Note: This parameter is for calibration with weights.
SPAn	Acquisition of Span point. Completely independent from Span acquisition *i* Note: This parameter is for calibration with weights.
i Note: Zero and Span operate independently. For example, a zero condition can be stored and then spanned when the silo is filled at later.	

How to enter Program Dosage Menu

1. PROGRAM FORMULA — *5 Sec.*

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PROGRAM FORMULA

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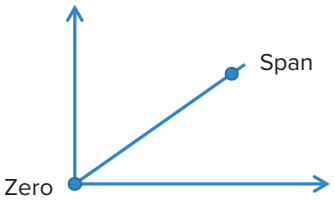
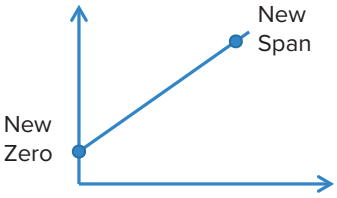
B 0.CAL
C doSAGE
D PrEC 10
E FiLtEr
F tArE
G rESEt
H diAG
I Pin.uSE
J Pin.db

0.CAL ib - Zero Correction (Zero Calibration)

Item	Description
0.CAL	Zero Calibration function (Zero Correction) rewrites the Zero point and proportionally modifies the Span point without modifying the calibration curve. Also, this zeros something added to the scale structure after installation.





How to enter Program Dosage Menu

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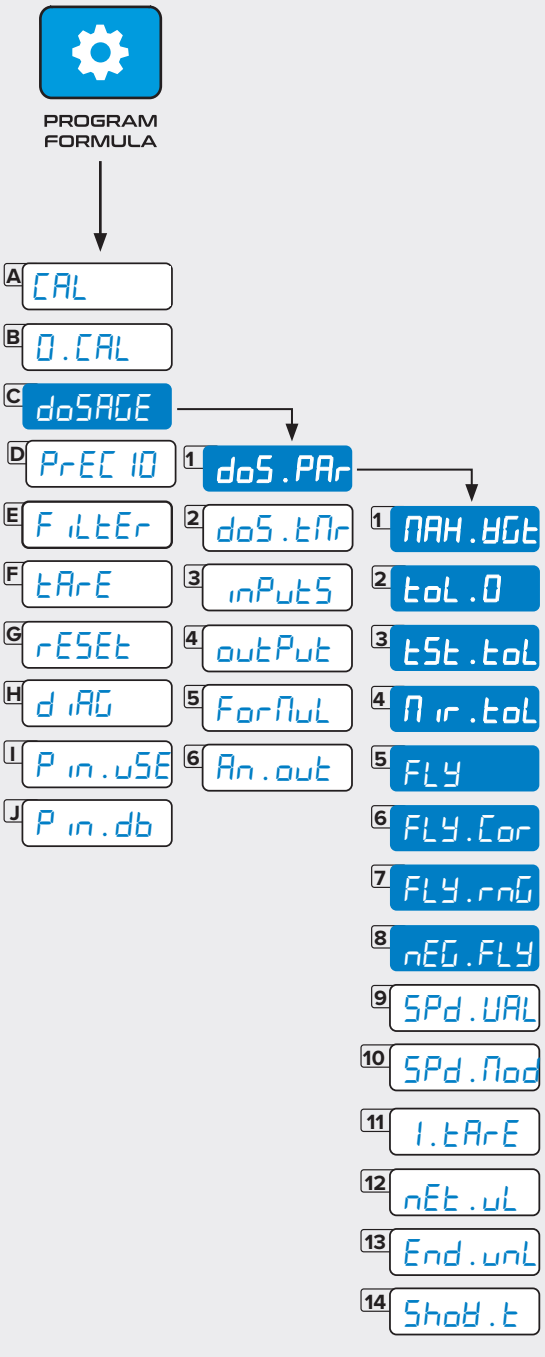

doS.PAr - Dosage Parameters

i doS.PAr parameters are common for all formulas.

Item	Description
MAX.WGt	Sets the safety weight threshold. If weight exceeds threshold, dosage stops and an Error appears
toL.0	Sets the empty scale tolerance range. This range sets a tolerance for a scale that can not register zero before dosage starts because of debris. This range starts a new cycle even if some debris register when the scale is empty. The scale is automatically tared at Start. *i* Note: If you set Min.tAr and MAX.tAr control in a formula, toL.0 threshold is not used in that formula.
tSt.toL	Sets the tolerance check at loading end. Set as WEIGHt, PErC or diSAb.
Mir.toL	Mirrored tolerance: • YES = Upper and lower tolerance thresholds will be equal (for example, +/- 5g or +/- 5%) • no = Upper and lower tolerance threshold can have a different values and are set as range for example, if the target is 1500 kg, you can set 1480 to 1540 kg) Only visible if tSt.toL = Weight
FLY	Activates Fly weight management (FLY setting inside a formula) • WEIGHt = Threshold value expressed in weight • PErC = Threshold value in % of dosed target • diSAb = Fly weight disabled *i* Note: The Fly weight value is set in each formula.
FLY.Cor	Activates Fly weight correction. The Fly Weight is automatically corrected by the dosage error function. • If tSt.toL is active and FLY.rnG parameter is =0, Fly weight correction is calculated only for in tolerance dosages. Higher the %, higher the correction impact and shorter the correction time. • If tSt.toL = oFF the flight weight correction is active even dosages out of tolerance. Only visible if FLY is active
FLY.rnG	Fly weight correction range: • If FLY.rnG = 0, correction happens only for in tolerance cycles. • If FLY.rnG is greater than = 0, correction is done for any dosage that ends in this range. Only visible if FLY.Cor ≠ 0
nEG.FLY	Negative fly compensates for when a lance removes product when extracted by dosing more of the target value. • YES = Negative fly weight enabled. Dosage stops at target + fly weight • no = Negative fly weight disabled. Dosage stops at target - fly weight Negative fly (useful when lance removes product when extracted). Instrument doses more of the target value to compensate for this weight loss. Only visible if FLY ≠ 0

DINI ARGEO Scales - Weighing systems

How to enter Program Dosage Menu

1. 5 Sec.

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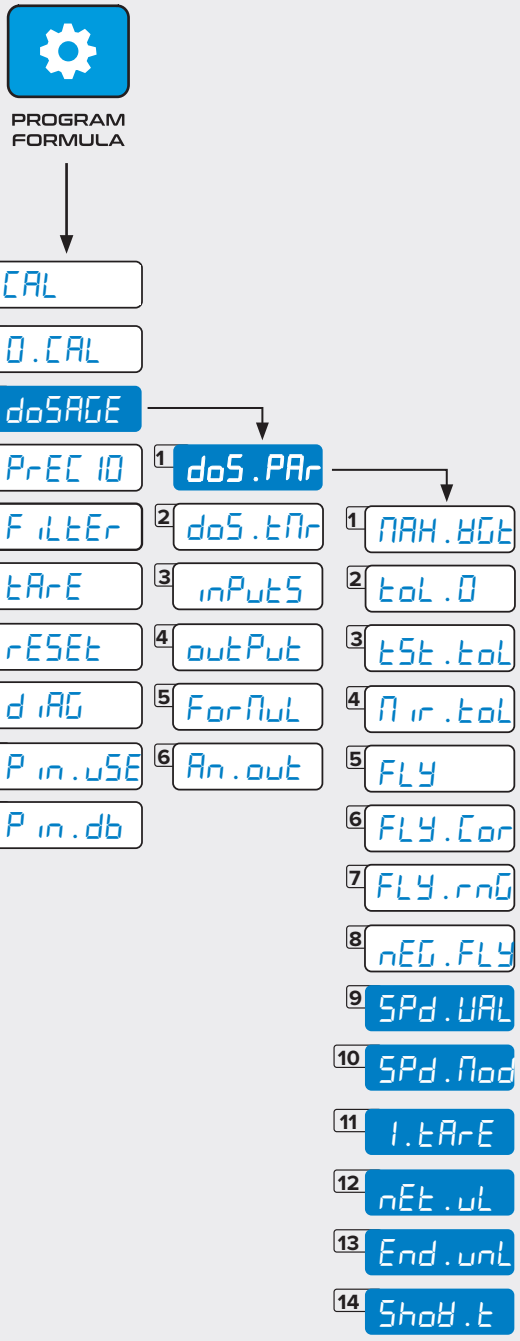

Item	Description
SPd.UAL	Activates Speed Dosage management (up to 3 speed stages): • WE iGhE: Threshold value expressed in weight • PErC: Threshold value in % of dosed target • d iSAb: Two dosage speeds *i* Note: Speed change threshold is setup in each formula.
Sdd.Mod	Sets speed mode: In Standard mode, all speed relays are active at the same time and will be turned off consecutively during dosage. In Sequential mode, each speed relay will turn on just after the previous relay turns off. *i* Note: Speed thresholds are setup into each formula. STANDARD (Std) • From 0 kg to Medium speed: R1 + R5 + R2 are ON • From Medium speed to Slow speed: R5 + R2 are ON • From Slow speed to TARGET – Fly weight: R2 is ON SEQUENTIAL (SEq) • From 0 kg to Medium speed: R1 is ON • From Medium speed to Slow speed: R5 is ON • From Slow speed to TARGET – Fly weight: R2 is ON
I.tArE	Sets automatic tare at start dosage: If set yes, the scale always tares the weight at start. If set no, dosage will consider the weight on the scale at dosage start as part of the dosed quantity. This is useful when you need to dose a Gross value (for example, a gas bottle + gas = 50 kg) *i* Note: If a preset tare is manually programmed, dosage will consider the net weight.
nEt.uL	Shows Net weight during unload phase: • YES = Net weight displays during unload phase • no = Net weight does not display during unload phase
End.unL	Sets end unload threshold, The unload phase finishes when the weight is under this threshold. The higher this threshold, the shorter the unload phase. If = 0 kg, unload cycle is disabled.
ShoW.t	During the loading dosage phase the display shows the weight from tArGEt (start) to 2Ero (end of dosage) instead of 2Ero to tArGEt. This shows how much weight is missing to reach the target.

How to enter Program Dosage Menu

1. 5 Sec.

PROGRAM FORMULA

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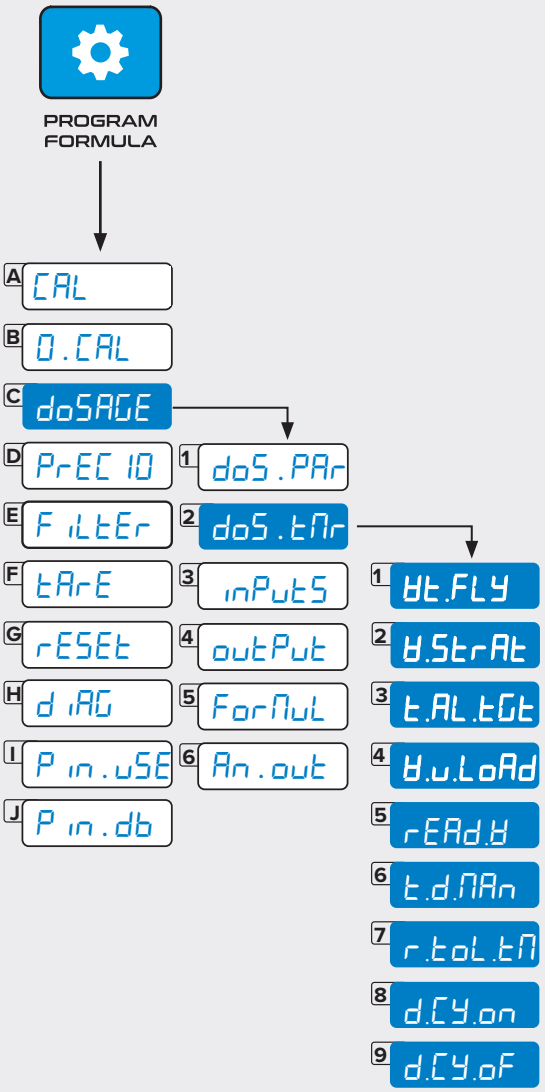

doS.tMr - Dosage timers

i doS.tMr parameters are common for all formulas.

Item	Description
Wt.FLY	Time to wait for material to fall down (for gravity) when dosage relay stops (Fly weight). Value as to consider the slower weight condition between the formulas in memory.
W.StrAt	Time for stability at dosage start. When start button is pressed, the scale verifies stability to acquire the accurate 0 kg value as a reference for the dosage. If weight will not stabilize within this time, an error displays.
t.AL.tGt	Dosage Watch Dog Alarm, if weight does not continuously increase for the time duration set in this step during the loading or unloading phase; the indicator stops the dosage and enters Alarm mode.
W.u.LoAd	End of unload delay, for automatic unload. Once the weight decreases under the End.unL threshold, that indicator waits for this time duration before turning off the unload relay. Lets the scale fully empty in case of dense material or powder.
rEAd.W	Timer at the end of loading and unloading, to help data reading from remote.
t.d.MAn	At the end of a manual load, the indicator waits for confirmation (press OK button). By enabling this timer, once the time is expired, acquisition is done automatically.
r.toL.tM	Sets the OK dosage relay pulse for in tolerance dosages.
d.Cy.on d.Cy.oF	Trickle mode manages dosage speed for systems with just one output (valve, gate, etc) with two duty cycle parameters: . d.Cy.on = Sets the time in seconds the output is active . d.Cy.oF = Sets the time in seconds the output is not active Typically, the parameters are set in less than 1 second intervals to continuously activate and deactivate the output. This continuous action configures the quantity of processed material in a given time period.

How to enter Program Dosage Menu

1. PROGRAM FORMULA — *5 Sec.*

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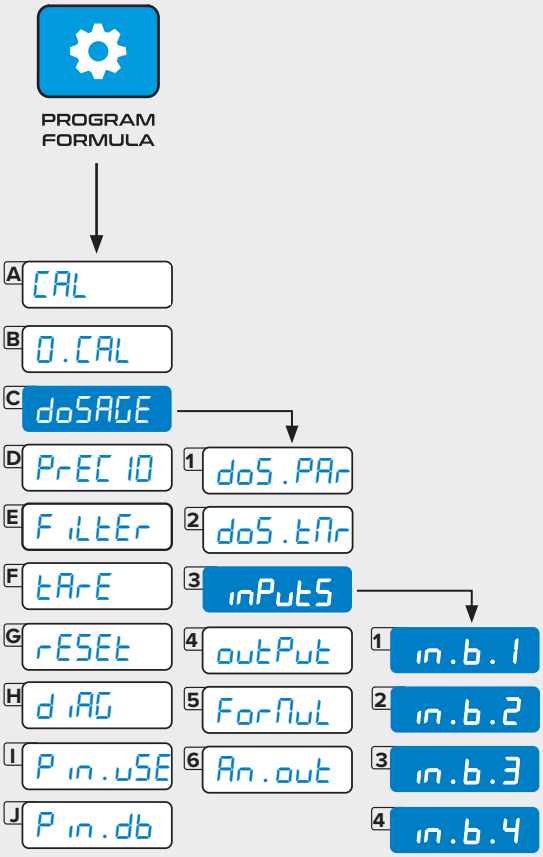

inPutS - Inputs

Item	Default Setting	Available Settings
in.b.1	StArt	• StArt = Start Dosage • PAuSE= Pause Dosage (external switch) • rESEt= Reset current dosage • Cons = Dosage consensus (If input goes to OFF, dosage immediately stops) • LoCA.Kb= Keyboad lock • 2Ero= Emulation of zero key (*) • tArE= Emulation of tare key (*) • C= Emulation of C key (*) • no = input disabled
in.b.2	PAuSE	
in.b.3	rESEt	
in.b.4	-	

i Note: Each input can be configured with an available function.
(*): works only out of dosage.

How to enter Program Dosage Menu

1. 5 Sec.

PROGRAM FORMULA

How to browse

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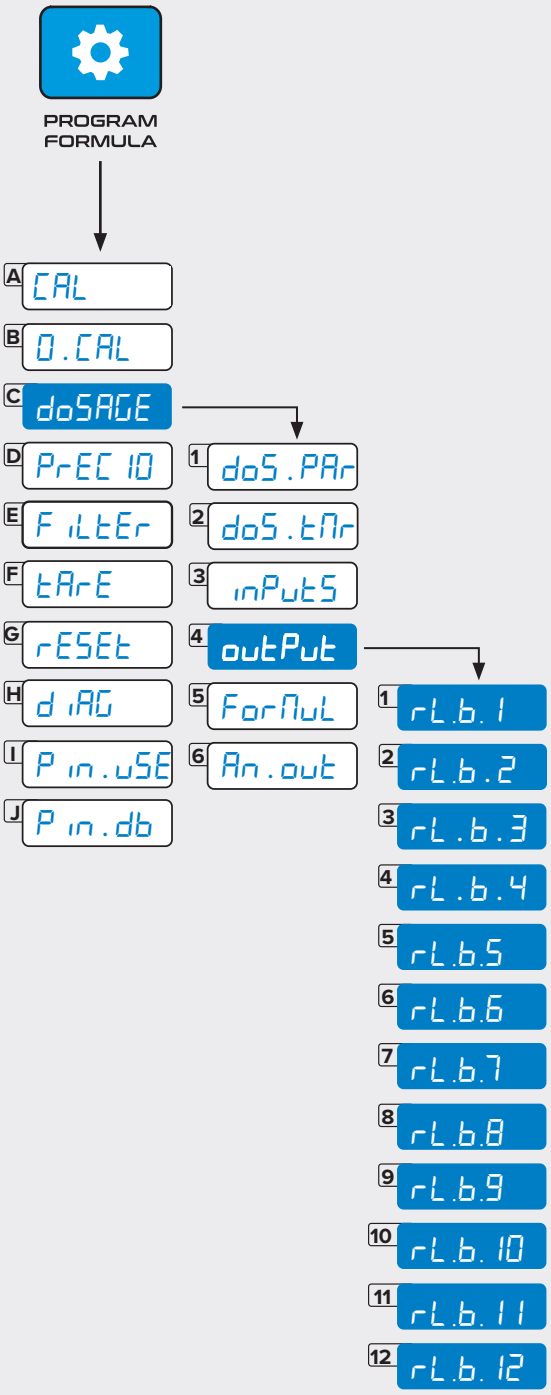

outPut - Output

Item	Default Setting	Available Settings
rL.b.1	FASt	• FASt: active during fast speed dosage • MEd iuM: active during medium speed dosage • SLoW: active during slow speed dosage • un.LoAd: active to unload the scale • Error: active in case of an error during the dosage • LAnCE: lance management • tr iCAL: active during slow speed dosage in trickle mode • oK.do5: active if the weight at the end of dosage is in tolerance • doSAGE: active during each phase of the dosage • do5.End: active at the end of the dosage • toL.Err: active if the weight dosed is out of tolerance • toL.PLu: active if the weight dosed is over the higher tolerance • toL.M in: active if the weight dosed is under the lower tolerance
rL.b.2	MEd iuM	
rL.b.3	SLoW	
rL.b.4	un.LoAd	
rL.b.5	Error	
rL.b.6	LAnCE	
rL.b.7	tr iCAL	
rL.b.8	oK.do5	
rL.b.9	-	
rL.b.10	-	
rL.b.11	-	
rL.b.12	-	

DINI ARGEO Scales - Weighing systems

How to enter Program Dosage Menu

1. 5 Sec.

PROGRAM FORMULA

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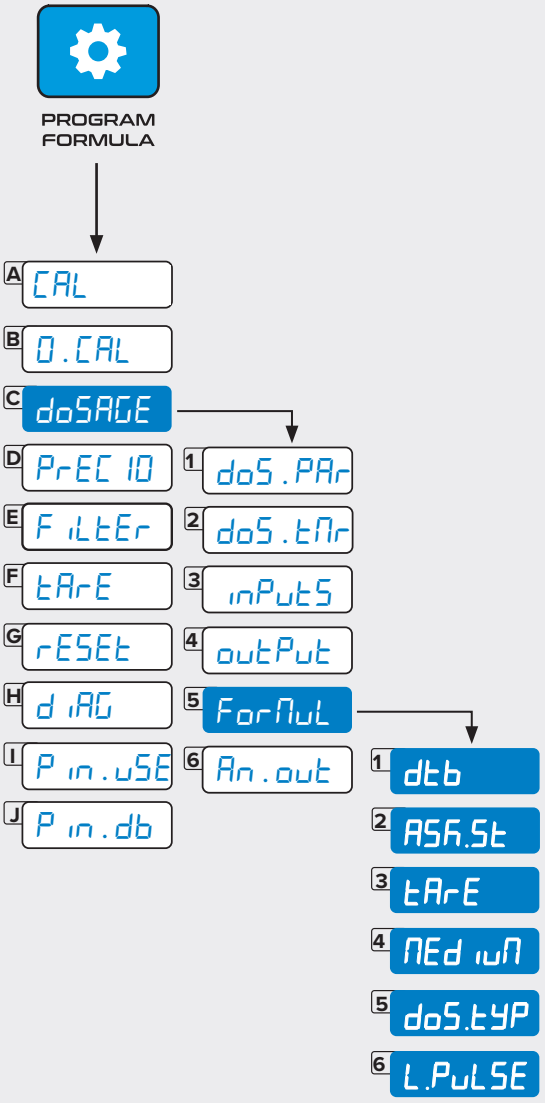

ForMuL - Formula

Item	Available Settings
dtb	. YES = Database mode with 50 formulas . no = Single formula mode
ASK.St	. YES = the instrument asks to select formula every time a dosage is started . no = if a formula is selected, the instrument starts the dosage
tArE	. YES = tare control enabled . no = tare control disabled. toL.0 value will be controlled
MEd iuM	. YES = medium speed dosage relay management enabled . no = medium speed dosage relay management disabled
doS.tYP	. Aut.doS = automatic dosage for all formulas . MAn.doS = manual dosage for all formulas . ForMuL = dosage type set in the formula
L.PuLSE	. YES = lance function enabled . no = lance function disabled

i Note: These parameters help customize the formula structure for customer needs: you can choose to require to input just the target. For more complex applications, you can associate several parameters with each formula to fit to automate the process.

i Note: Set up a password in P in.db to protect the database programming.

How to enter Program Dosage Menu

1. PROGRAM FORMULA — *5 Sec.*

How to browse

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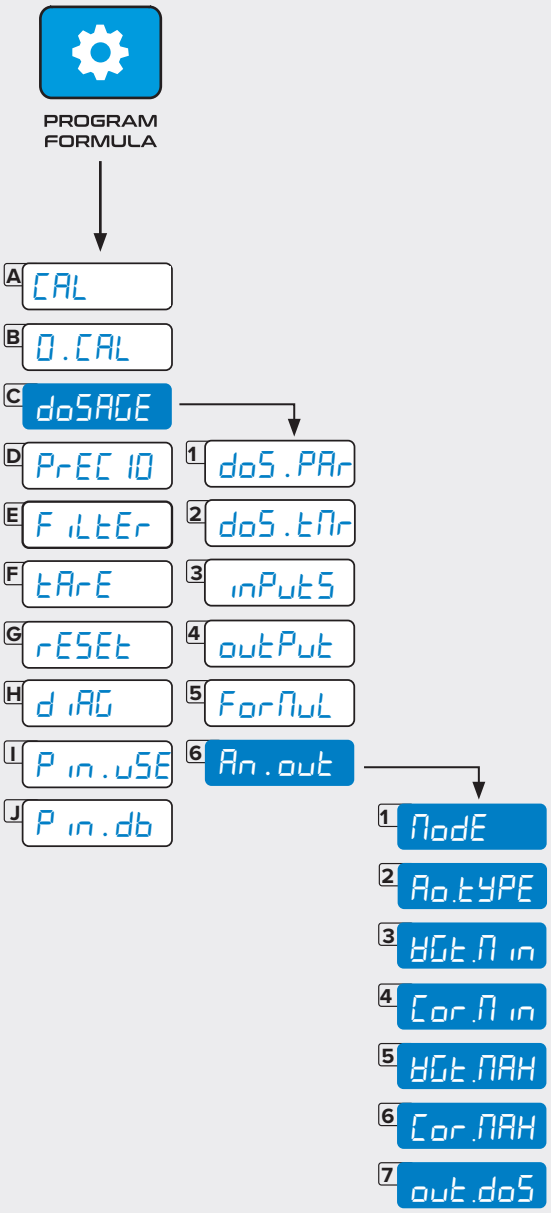
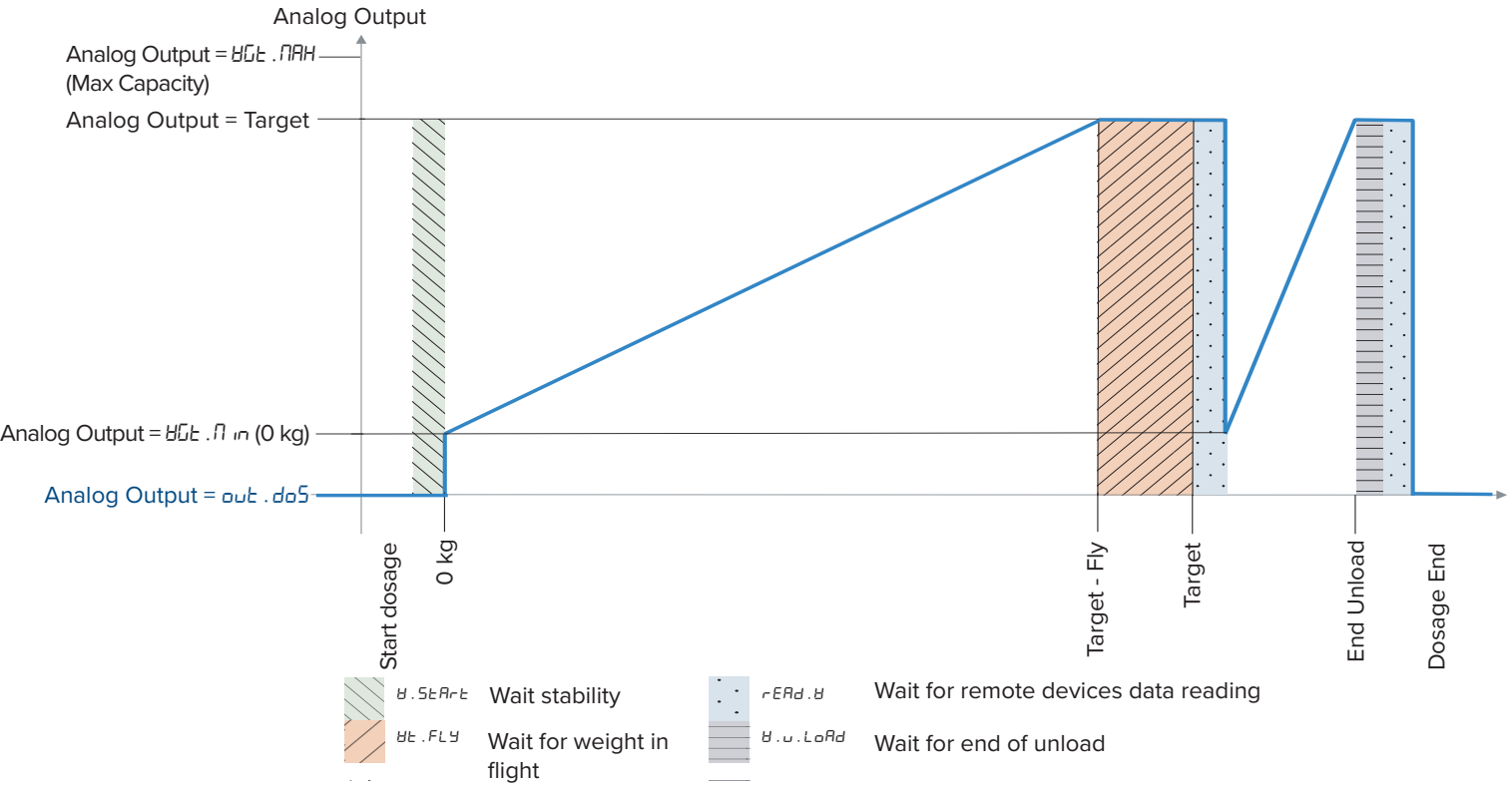


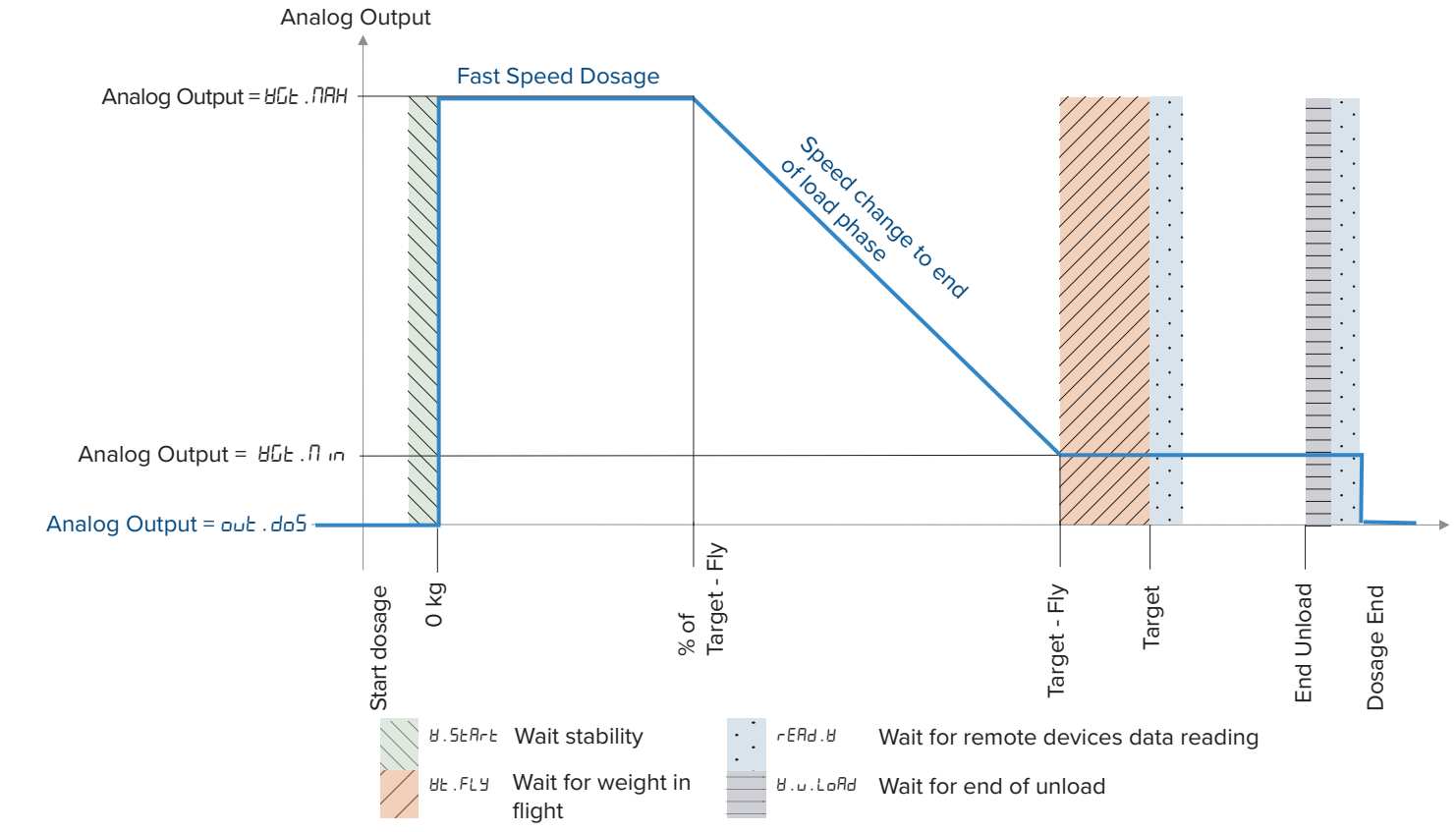
An.out - Analog Output

Item	Value	Description
ModE	doS.UAL doS.SPd Gro55 nEt	doS.UAL: analog output value proportional to the dosed value. 0 mA @ out of dosage status 4 mA @ start dosage status (START button pressed) XX mA @ Target (proportional to NET weight) See Analog Output - Dosage Value. doS.SPEEd (xx %): analog output value proportional to dosage speed. Start = Max Value mA Target = Zero value (4mA) Speed change happens when weight reached the % of (TARGET-FLY) set up in this step. See See Analog Output - Dosage Speed Mode. Gro55: proportional to gross weight and independent from dosage cycle nEt: proportional to net weight and independent from dosage cycle
Ao.tYPE	4-20mA 0-20mA 0-5U 0-10U MAnuAL	Select the preset Mode; analogue output will be setup to default DAC values
YGt.M in	xxxxxx kg	Weight corresponding to analog output minimum value
Cor.M in	-	Use UP and DOWN keys to fine tune the analog output value when corresponding to minimum weigh (YGt.M in)
YGt.MAH	xxxxxx kg	Weight corresponding to analog output maximum value
CorMAH	-	Use UP and DOWN keys to fine tune the analog output value when corresponding to maximum weigh (YGt.MAH)
out.doS	-	Use UP and DOWN keys to fine tune the analog output value when the indicator is out of dosage cycle

Aanalog Output - Dosage Value



Aanalog Output - Dosage Speed Mode



Program Formula

How to access Formula Menu:

1. Hold for 2 seconds power on the scale.

2. Press once to access the Formula database.

3. Database displays

How to enter Program Formula Menu

1. Single press

PROGRAM FORMULA

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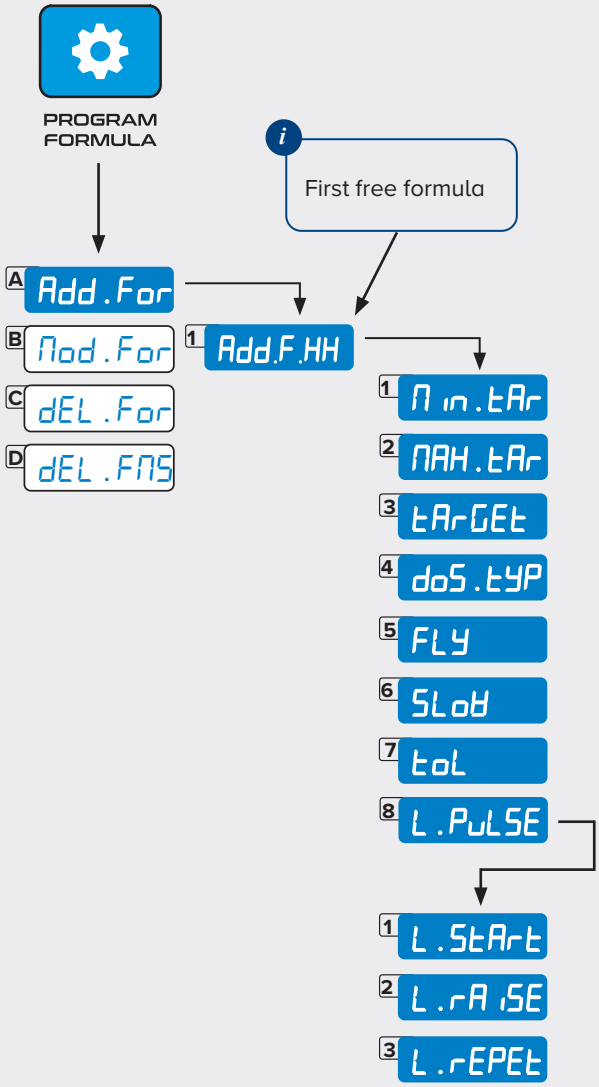

Add.For - Add Formula

Item	Value	Description
Min.tAr *	xxxxxx kg	Minimum and maximum tare value: If both these values are equal to 0, the 0.toL value will be considered for any formula
MAH.tAr *	xxxxxx kg	
tArGEt	xxxxxx kg	Dosage target
doS.tYP *	Aut.doS / MAn.doS	Aut.doS: automatic dosage MAn.doS: manual dosage
FLY *	xxxxxx kg or xx%	Quantity that falls for gravity after dosage relay stop
SLoW *	xxxxxx kg or xx%	Speed change threshold
toL *	xxxxxx kg or xx%	Tolerance value
L.PuLSE *	xxxx sec	Lance pulse duration: 0 = Lance Off 1 or more seconds = Lance active
L.StArt *	xxxxxx kg	(only if L.Pulse is set up at xxsec) Rise Lance Start threshold
L.rAiSE *	xxxxxx kg	Weight threshold that active the pulse
L.rEPEt *	xxx	Number of rising repeats 0 = number of repeats to reach target
* These parameters can be hidden-disabled from the configuration menu.		

How to enter Program Formula Menu

1. Single press

PROGRAM FORMULA

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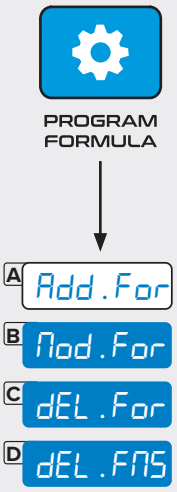


Mod.For, dEL.For, dEL.FMS - Modify and Delete Formulas

Item	Description
Mod.For	Modify formula
dEL.For	Delete single formula
dEL.FMS	Delete all formulas

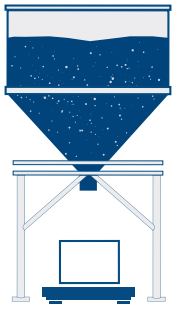
How to activate a Dosage

1. Hold for 2 seconds power on the scale.

2. Press to access the Program Formula menu.

3. Set the target (only if you need to change the preset value)

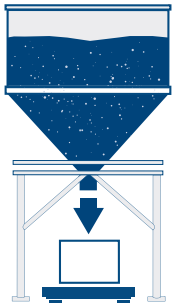
4. Add a container to the scale.



5. Press start.

6. The scale tares the container and displays zero as the weight.

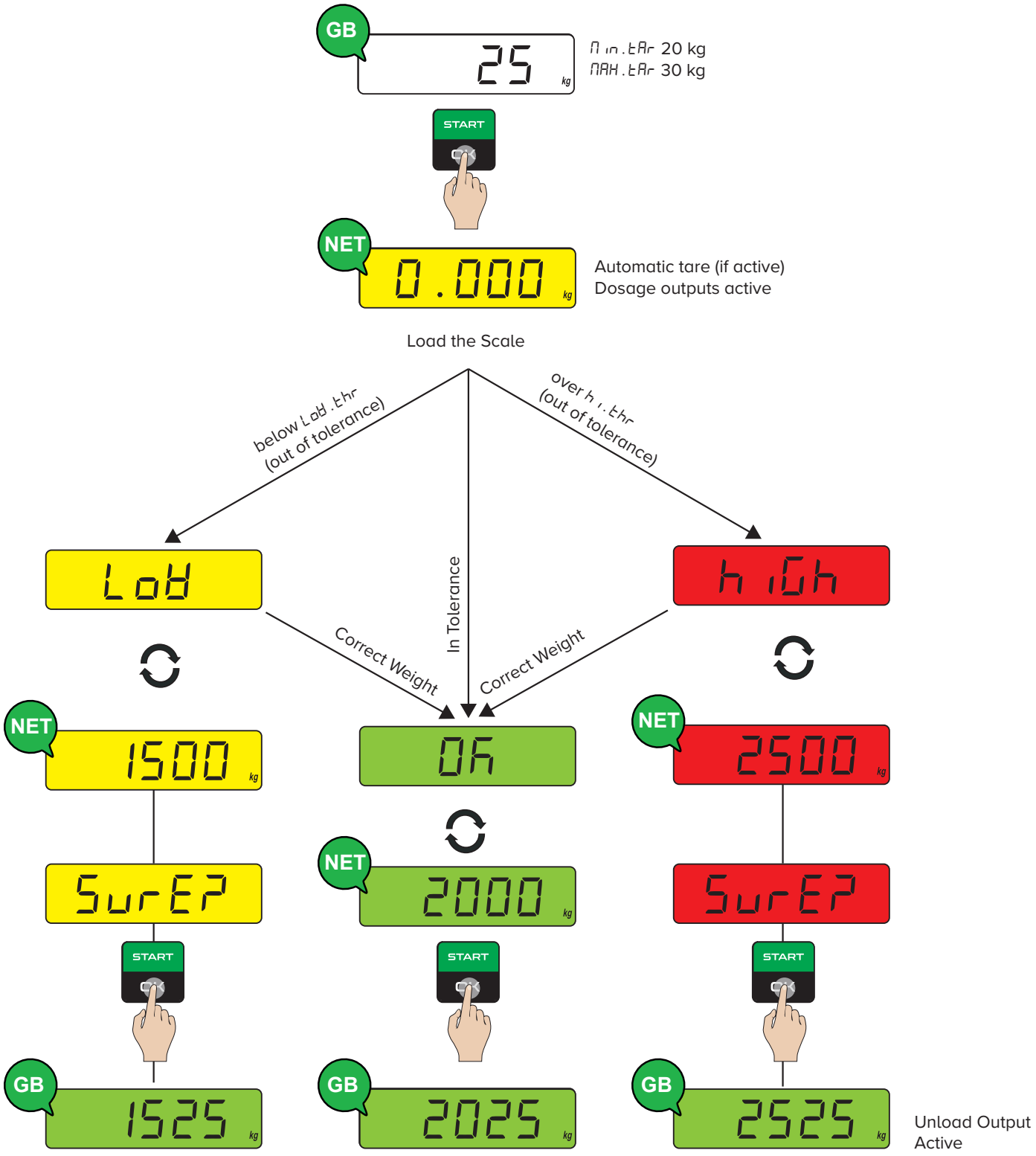
8. Process the material.

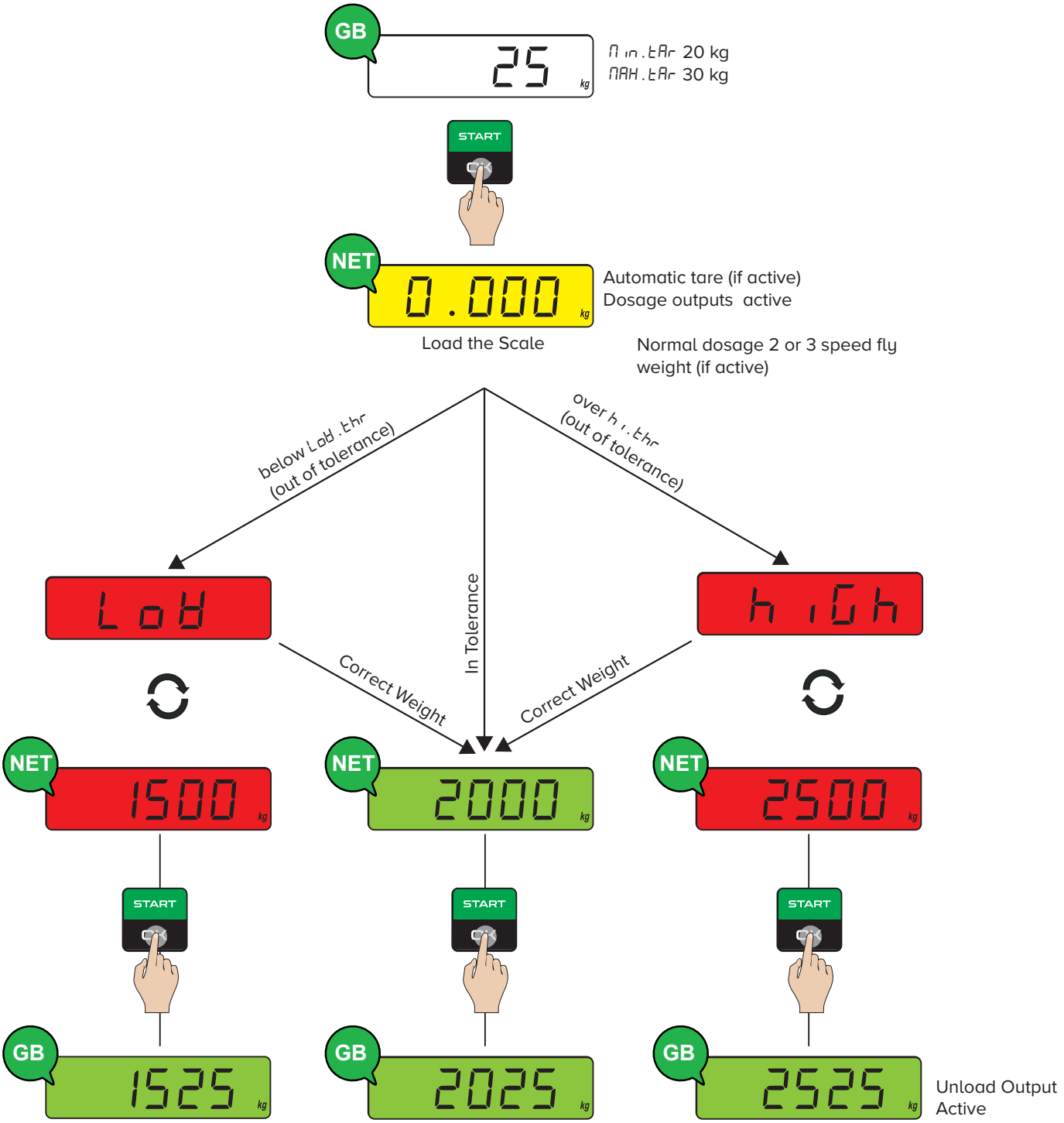


8. Press to pause the dosage.

9. When dosage is paused, press pause button again to reset dosage.

Item	Description
	When a dosage starts, the display turns yellow and O1, O2 and O3 icons appear. These icons indicate that the dosage relays are on (relays 1 , 2 and 3 indicate Fast, Medium and Slow speed management), The display stays yellow until the weight exceeds the TARGET+/-FLY WEIGHT threshold.
	When the dosage completes in tolerance, the display turns and stays green until the end of the unload phase. 04 indicates that relay 4 is on.
	When an error occurs, the display turns red and an error message is shown.





Operating Messages

Message	Description	Timer
	When you press START and TARE weight is lower that threshold setup into formula	2 seconds
	When you press START and TARE weight is higher that threshold setup into formula	2 seconds
	During dosage: 01-dA = Automatic dosage - Loading phase 02-dM = Manual dosage - Loading phase 00-uL = Unloading phase	15 seconds
	When loading phase is completed and dosed weight is lower that tolerance. It is displayed alternating to the weight value.	3 seconds
	When loading phase is completed and dosed weight is higher than tolerance. It is displayed alternating to the weight value.	3 seconds
	When loading phase is completed and dosed weight is in tolerance.	3 seconds
	No Formula selected	2 seconds

Notes

DINI ARGEO
Scales - Weighing systems

Stamp of authorised support centre

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