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USER GUIDE
UGB041-0120

TrueFeed Touch OPC-UA



Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date: _____

Manual Number: UGB041-0120 _____

Serial Number(s): _____

Model Number(s) _____

Software version : 2.8.0
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Language : ENG
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1 Introduction

Thank you for purchasing a ConairTrueFeed™ metering device. This manual is addressed to operators and qualified technicians taking care of the metering of dry additives to ensure correct use of the Conair dosing unit.

This manual is a supplement of the general TrueFeed manual. Please check the Conair website for the general TrueFeed manual, or ask your local Conair representative.

① This manual must be read before installing the dosing unit. Keep this manual in a place accessible for all operators.

1.1 Symbols

① Important note.



Attention; safety regulations for the operator.

1.2 Terms

Operator:	A person charged to operate, adjust, maintain and clean the machine.
Qualified Technician:	A specialized, suitable trained person authorized to execute the installation, non-routine maintenance, or repairs requiring special knowledge of the machine and how it operates.
Multi component:	Two or more dosing systems on one machine.

1.3 Transport

To protect the Conair unit against damage during transport, the unit is packed in a cardboard box filled with polyurethane foam. Delivery terms are Ex-Works Sneek, The Netherlands. Buyer is responsible for the transport. Conair cannot be held liable for any damage during transport.

1.4 Receipt

Check the unit thoroughly upon receipt for damages or missing parts. Pass any remarks to the local agent or Conair within 8 days upon receipt of goods.

1.5 Disclaimer

Conair does not warrant that the hardware or software will work properly in all environments and applications, and makes no warranty and representation, either implied or expressed, with respect to the quality, performance, merchantability or fitness for a particular purpose.

Conair has made every effort to ensure that this user's manual is accurate; Conair disclaims liability for any inaccuracies or omissions that may have occurred.

Information in this user's manual is subject to change without notice and does not represent a commitment on the part of Conair. Conair assumes no responsibility for any inaccuracies that may be contained in this user's manual. Conair makes no commitment to update or keep the current information in this user's manual, and reserves the right to make improvements to this user's manual and/or to the products described in this user's manual, at any time without notice.

If you find information in this manual that is incorrect, misleading or incomplete, we would appreciate your comments and suggestions.

2 General information

2.1 Safety



The equipment is only designed and may only be used for the dosing of dry additives. Any use that is not in conformity with the instructions is considered improper and as such frees the manufacturer from any liability regarding damage to things and/or persons.



Before switching on the unit for the first time, ensure that the mains power voltage applied is between 95 and 250VAC.



Ensure that all parts are securely fixed to the extruder, injection molding machine or machine support.



Always switch off the Conair control cabinet and disconnect the mains power plug from electrical power before performing maintenance.



Dangerous voltages are present inside the control cabinet for up to 2 minutes after it has been switched off.



Always disconnect the main compressed air connection before performing maintenance.

2.2 Certification

The Conair dosing unit is designed and produced in conformity with the following European regulations:

1. C€ standards for machinery (health, safety, environment).
2. EMC (electromagnetic compatibility).
3. 2006/42/EG.
4. RoHS.

2.3 Operating environmental conditions

1. The unit must be protected against weather conditions.
2. Operating temperature -20 to +70 degrees Celsius.
3. Protection class: IP-50.

3 General operation

3.1 TrueFeed Touchscreen



1.	External communication / network
2.	USB Port

4 TrueFeed data structure

4.1 Multi component

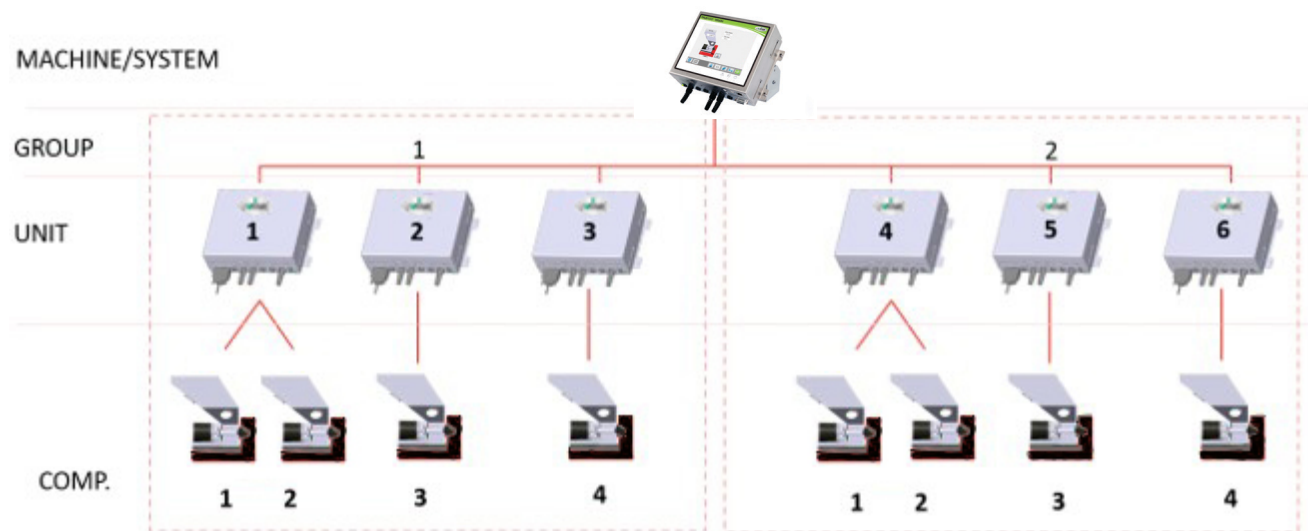
The Conair touchscreen controller and modular design of the Conair components offers an enormous flexibility in combining your dosing/measuring devices.

With this system it is possible to connect up to 15 different devices to one neckpiece and directly to your injection molding machine or extruder

The group functionality enables you control and monitor the feeding of additives in co-extrusion co-injection setups from one touchscreen. Each group with its one start/tacho input signal and production parameters. Up to 15 groups can be configured easily.

Data structure

The internal data model of the TrueFeed software is built on this multicomponent and multigroup structure. This can also be recognized when browsing the OPC-UA parameter structure on the OPC-UA server.



5 OPC-UA server

5.1 Introduction

The implemented OPC-UA server is a lightweight version according to OPC-UA specification. The server profile is a “Embedded UA Server Profile” as specified in the OPC UA specification part 7.

A limited set of production parameters is available. This set of parameters will be expanded in future software developments.

5.2 System requirements

OPC-UA is implemented from TrueFeed software version 2.8.0 and higher. The OPC-UA server is disabled by default, to enable the OPC-UA server a “Special Feature” license is required. This license can be purchased at your local Conair representative or via Conair sales support department.

5.3 Security

There is no security level implemented. A connection can be opened without the use of user credentials.

5.4 Server settings

5.4.1 Server Information

Endpoint Url: `opc.tcp://IP-ADDRESS:4840`

5.4.2 Security settings

Security Policy: None

Message Security Mode: None

5.4.3 Authentication Settings

Anonymous

5.4.4 Parameters

Chapter 6 describes the OPC-UA server objects list and attribute definitions. Some of the parameters are specific to the production mode (Injection Molding, Extrusion or Batch) or this is marked in the object/parameter description. Other parameters are specific to the dosing unit type.

5.4.5 Methods

Some actions like production start and event handling are using “Method Calls”. Some OPC-UA clients do not support Method Calls.

6 Address Space

Root

No information

6.1 Root:Objects

Attribute	NodeClass	Description
DosingSystem	Object	Folder containing attributes regarding the dosing system
Server	Object	Folder containing server information

6.1.1 Root:Objects:DosingSystem

Attribute	NodeClass	R/W	Type	Unit	ProdMode	Description
StartProduction	Method	Call				Start production
StopProduction	Method	Call				Stop production
GetEventDetails	Method	Call				Retrieve information of the active event
AcceptEvent	Method	Call				Acknowledge active event
Event	Variable	RO	UInt32			Gives the id number of the actual event (see TrueFeed manual)
Groups	Object					Folder containing group attributes. See chapter Root:Objects:Groups
Input type	Variable	RO	UInt32			Input signal type: Enumeration
Name	Variable	RO	String			Name of the touchscreen controller
OrderNumber	Variabele	RW	String	Second		Active production order, used for consumption counting
ProductionMode	Variable	RO	UInt32			Configured production mode: Enumeration
ProductionState	Variable	RO	Bool			Production state, ON/OFF

6.1.2 Root:Objects:DosingSystem:Groups

Attribute	NodeClass	R/W	Type	Unit	ProdMode	Description
Group1	Object					Multiple groups can be configured in one system
ActualTime	Variable	RO	Float	sec	INJ	Remaining Dosing time of actual dosing shot
BatchWeight	Variable	RW	Float	gr	BATCH	Dosing batch size used for production mode BATCH
Capacity	Variable	RW	Float	gr/s	EXT	EXT-RELAY extruder throughput setpoint, EXT-TACHO tacho ratio extruder throughput
CapacityAct	Variable	RO	Float	gr/s	EXT	Actual extruder total throughput
DosingTime	Variable	RW	Float	sec.	INJ	INJ-TIMER dosing time (plastification) setpoint
Name	Variable	RO	String			Name of group
RelayTime	Variable	RO	Float	sec	INJ	INJ-RELAY dosing time (plastification) setpoint, time measurement of the start input.
RemoteStartInput	Variable	RW	Bool			Start dosing input signal (same function as hardware wire start input)
RemoteTacho	Variable	RW	Float	volt	EXT	Tacho input signal (same function as hardware tacho input signal) range: 0-30 Volt
ShotWeight	Variable	RW	Float	gr	INJ	Total product weight of one machine cycle including sprue
TachoAct	Variable	RO	Float	volt	EXT	Actual tacho voltage (supplied by hardware wire or by digital signal)
Units	Object					Folder containing unit attributes. See chapter Root:Objects:Groups:Units

6.1.3 Root:Objects:DosingSystem:Groups:Units

Attribute	NodeClass	R/W	Type	Unit	ProdMode	Description
Unit1	Object					Multiple units can be configured within one group
Components	Object					Folder with component attributes. See chapter Root:Objects:Groups:Units:Components
DosingMode	Variable	RO	UInt32			Dosing mode configuration. Gravimetric or Volumetric: Enumeration
DosingTool	Variable	RO	UInt32	Enum		Dosing tool configuration. Enumeration
Motor	Variable	RO	UInt32	Enum		Motor type configuration. Enumeration
MotorSpeed	Variable	RW	Float	Rpm		Motor speed setpoint for Volumetric dosing mode
MotorSpeedAct	Variable	RO	Float	Rpm		Actual motorspeed while dosing
Name	Variable	RO	String			Name of the unit
Status	Variable	RO	UInt32	Enum		Unit production status (Dosing, Filling, etc.) Enumeration
Type	Variable	RO	UInt32	Enum		Unit type (MCBalance, MCWeight, MCHybrid, etc.) Enumeration
Weight	Variable	RO	Float	gr		Actual weight on the weighing scale (gravimetric units only)

6.1.4 Root:Objects:DosingSystem:Groups:Units:Components

Attribute	NodeClass	R/W	Type	Unit	ProdMode	Description
Component1	Object					Multiple components can be configured within one unit
Consumption	Variable	RO	Float	gr		Total consumed material for this component
DosingPct	Variable	RW	Float	%		Dosing rate setpoint
DosingPctAct	Variable	RO	Float	%		Actual dosing rate
DosingPctAct	Variable	RO	Float	%		Actual used dosing rate setpoint (reduced by regrind, depending on recipe)
FillLevels	Variable	RW	Float[4]	gr		Array of fill level settings (HiHi, Hi, Low, LowLow)
FillSystem	Variable	RO	UInt32	Enum		Fill system configuration. Enumeration
Granule	Variable	RO	UInt32	Enum		Material shape, fine or normal granules. Enumeration
MaterialName	Variable	RO	String			Name of material to be dosed.
Name	Variable	RO	String			Name of dosing component
ShotsToGo	Variable	RO	UInt32	Shots	INJ	Number of dosing cycles to go before hopper empty
TimeToGo	Variable	RO	UInt32	min	EXT	Number of minutes to go before hopper empty
Type	Variable	RO	UInt32	Enum		Recipe configured material function (Virgin, Regrind, ...) Enum:ComponentTyptType

6.1.5 Root:Objects:Server

To be defined

6.2 Root:Types

Type	Description
DataTypes	Folder with data types
EventTypes	Folder with event types
ObjectTypes	Folder with object types
ReferenceTypes	Folder with reference types
Variable Types	Folder with variable typs

6.2.1 Root:Types:DataTypes

Attribute	NodeClass	Description
BaseDataType	DataType	Multiple components can be configured within one unit
Enumeration	DataType	

6.2.2 Root:Types:DataTypes:Enumeration

Attribute	NodeClass	Value	EnumStrings	Description
ComponentTypeType	DataType	0	Virgin	
		1	Add.V	
		2	Add	
		3	Add.S	
		4	Regrind	
DosingModeType	DataType	0	GRAVI	
		1	SEMI	
		2	VOLU	
		3	OPTO	
DosingToolType	DataType	0	None	
		1	GLX	
		2	HX	
		3	GX	
		4	A8	
		5	A10D	
		6	A15	
		7	A20	
		8	A30	
		9	A50	
		10	A80	
		11	PA17	
		12	SP15	
		13	SP19	
14	Undefined			
EventTypeType	DataType	0	None	
		1	Warning	
		2	SoftAlarm	
		3	Alarm	
FillSystemType	DataType	0	LOADER OFF	
		1	ME	
		2	MV	
		3	EXT	

		4 5 6	MFD 3PH COMPACT	
GranulateType	DataType	0 1 2 3	NG MG	
InputTypeType	DataType	0 1 2	TIMER RELAY TACHO	
MotorType	DataType	0 1 2 3	None LT HT Undefined	
ProductionModeType	DataType	0 1 2	INJ EXT BATCH	
UnitStatusType	DataType	0 1 2 3 4 5 6 7	OFF STANDBY DOSING MEASURING FILLING PAUSE STOPPING UNLOADING	
UnitTypeType	DataType	0 1 2 3 4 5 6 7	Contact Conair	

6.3 Root:Types:EventTypes

Type	Description
Future Use	

Root:Types:ObjectTypes

Type	Description
BaseObjectType	
DosingComponentType	
DosingGroupType	
DosingSystemType	
DosingUnitType	

6.4 Views

View	Description
Future use	

7 License

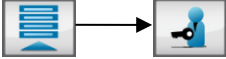
OPC-UA server function requires a “special feature” license in order to work . This license is controller hardware related.

The special feature license can be factory enabled or can be installed at a later time.

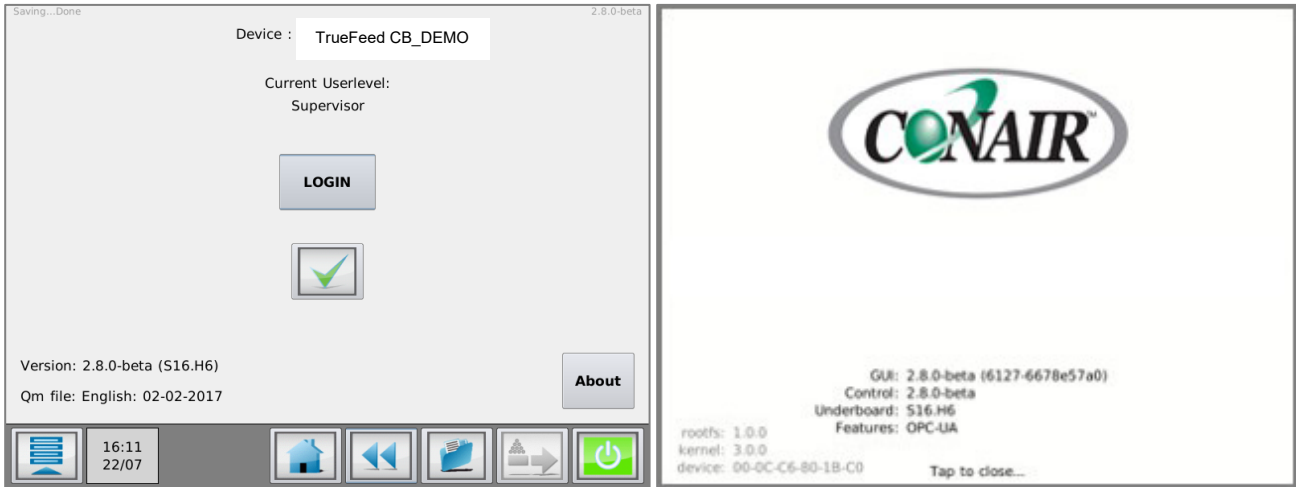
7.1 Check featured licenses

In order to check if the required special feature is enabled at the TrueFeed controller open the “About” screen

Login using Supervisor credentials (2222) and navigate to the about screen:



After entering the Supervisor credentials the About button will be available in the login screen



The about screen will display the enabled special features

7.2 Adding a special feature license

A special feature license can be added by means of an special license activation file on a USB memory stick. This license file can be used on one TrueFeed controller only (it is hardware related).

7.2.1 Ordering/requesting the special feature license

The license file can be ordered/requested at your local Conair representative or directly at Conair Sales Support.

With your request you need to supply the controller device id and/or serial number

Serial number to be found on the controller identification label (located on the outside of the controller)

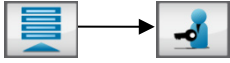
The device ID can be found in the about screen:



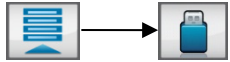
7.2.2 Activating the special feature license

Once you have received the license file, copy the file (TrueFeed -licence.mcl) to the root of an empty USB memory stick. Be sure the file is not located within a folder.

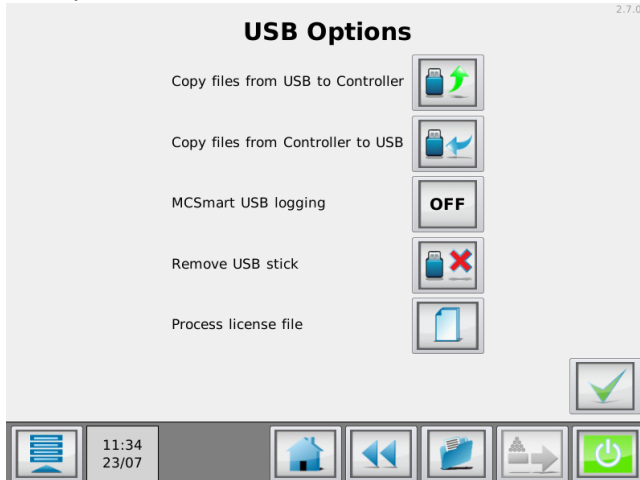
- Insert this USB memory stick in the TrueFeed controller USB slot
- Login to the controller with supervisor credentials (2222)



- Navigate to the USB menu



- The option “Process license file” should be available, click this button



- A message will be shown the special feature has been enabled
- Remove the USB memory stick from the controller

7.2.3 Troubleshooting

The button “process license file” is not shown:

- Be sure the license file has the right name TrueFeed -license.mcl
- Be sure the file is not located in a folder, the file needs to be in the root of the USB memory stick
- The USB memory stick has not been detected yet, try reopening of the USB menu

The license file is not accepted, message “incorrect device” is shown:

- The license file is for another controller
- A wrong device id is communicated at ordering the license file


We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:



 **NOTE:** Normal operating hours are 8:00 am - 5:00 pm (EST). After hours emergency service is available at the same phone number.

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- Make sure you have all model, control type from the serial tag, and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- Make sure power is supplied to the equipment.
- Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- Check the troubleshooting guide of this manual for a solution.
- Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- Check that the equipment has been operated as described in this manual.
- Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.