

## INTECONT® Tersus for Feeding Systems



- Compact measuring, control, and supervisory electronics for continuous feed applications
- High resolution colour LCD-Display
- User language selectable and loadable
- Optimal communication structures for fieldbuses and Ethernet-Networks
- EasyServe PC program for convenient commissioning and service
- High operating convenience, automatic calibration programs

### Application

Designed for feeding duties in continuous processes, the INTECONT Tersus measuring, control, and supervisory electronics is specially suited for single feeders and small gangs controlled by a host system. The system is the right choice whenever bulk solids have to be fed with high accuracy with the use of

- Belt weighers (MULTIBELT® or weigh belts with controlled prefeeders)
- Weighfeeders (MULTIDOS®)
- Coriolis mass flow feeders (MULTICOR®) [in 2012]
- Loss-in-weight feeders (discharge and fill weighing with MECHATRON® / AccuRate) [in 2012]

Without expensive control of the feeder environment.

The system can also be used in special applications, i.e. in the hazardous area. [in 2012]

The measuring, control, and supervisory electronics is specially economical if the feed system is controlled locally in normal mode or from the display and control panel in a central control room.

### Equipment

The electronics is supplied as front-of-panel mounting unit or with an optional wall-mounting housing for installation at site. The system is operated via an ergonomically styled keyboard organised into operating and service functions. The colour LCD-display shows clearly measuring values and status information. Equipped with appropriate communication module, INTECONT Tersus optimally fits into any automated environment. The Ethernet network connection is included in the basic equipment.

### Operating Principle

Although the INTECONT Tersus functions vary with every scale type, the basic equipment is always the same:

- System accuracy for weighing tasks better than 0.05 %
- Precise speed acquisition
- Optimal feed control for accurate batching via an adaptive control circuit
- High electromagnetic compatibility
- Galvanically isolated outputs
- Fail-safe data memory
- Integrated diagnostics and self-testing functions
- Preset with default values for easy and quick commissioning
- User language in German, English, Italian, Spanish and French. More languages loadable including Chinese or Russian (Cyrillic)
- Automatic calibration programs, theoretical span calibration without auxiliaries
- Configurable and selectable display modes
- Simulation mode for testing and learning
- Status, event, calibration and quantity reports

## Weighing Functions

The difference of set and actual feed rates, determined by comparison, forms the control output to the feeder control circuits. As a function of feeder type, a corresponding control signal is transferred to the speed-controlled weigh belt, the controllable discharge unit of the loss-in-weight feeder or the controllable feed unit of the Coriolis mass flow feeder.

The control circuit exactly controls the actual feed rate for setpoint.

The actual feed rate is acquired using:

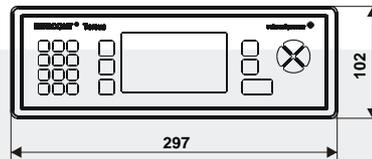
- Measured variables, i.e. belt speed and belt load with weighfeeders
- Loss in weight in the hopper per unit time with loss-in-weight feeders
- Direct mass flow measurement on the Coriolis principle (mass flow feeders)

In addition to the comprehensive basic equipment, the following weighing functions are available:

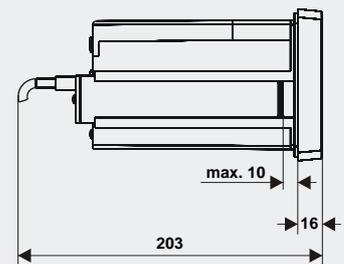
- Weighfeeders
  - Control for point of discharge
  - Automatic belt run monitoring (belt slip, belt skew)
  - Belt influence compensation (BIC)
- Loss-in-weight feeders
  - Adaptive fuzzy disturbance auto elimination
  - Fill control as a function of time and/or weight
  - Adaptive control adjustment to material properties
- Coriolis mass flow feeders
  - Manual and automatic zero setting
  - Prefeeder control

## Dimensions (mm)

### INTECONT Tersus for Front-of-Panel Mounting

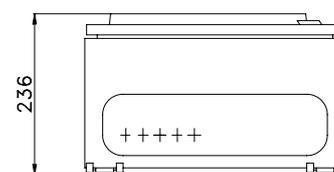
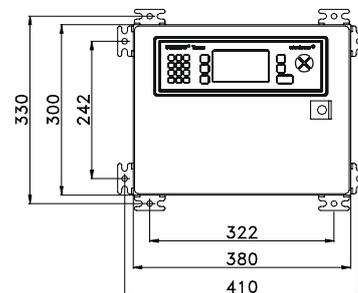
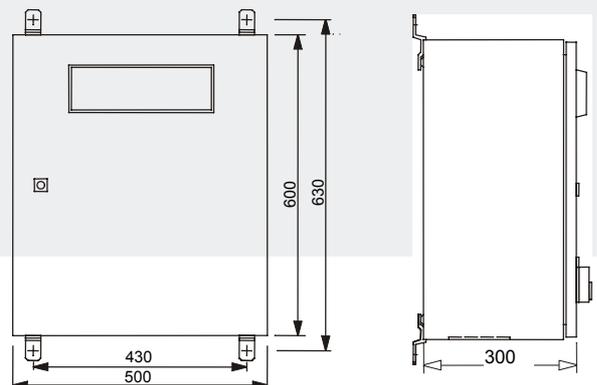


Panel cut-out  
282 + 0,5 x 88 + 0,5



### Wall-mounting Housing

Selected in accordance with application



## Technical Data

<b>Display</b>	Graphical LCD display, adjustable brightness
<b>Keyboard</b>	22 keys
<b>Power supply</b>	24 VDC +50 % / -25 %, max. 20 VA
<b>Temperatures</b>	Operating temperature: -40 °C ... +60 °C Storage temperature: -40 °C ... +80 °C Legal-for-trade operating temperature: -10 °C ... +40 °C
<b>Load cell input</b>	Power supply: 6 VAC Load cell impedance: R min 80 Ω Cable length: max. 1000 m
<b>Housing</b>	Panel mount, optional clamps for IP65
<b>Binary inputs</b>	5 x Optocoupler 18 - 36 VDC, typ. 5 mA 1 x NAMUR and 1 x NAMUR/Power 0,04 - 3000 Hz
<b>Binary outputs</b>	8 x Relays, max. 230 V, 8 A ohm. / 1 A inductive load
<b>Pulse output</b>	1 x Optocoupler for the totalizing counter 24 V, 0,1 A, max. 10 Hz
<b>Analog outputs</b>	2 x 0(4) - 20 mA, load max. 500 Ω
<b>Analog input</b>	0(4) - 20 mA, input impedance 100 Ω, or 0 - 10 V
<b>Serial Connections</b>	Interface 1: EasyServe Interface 2: Printer Interface 3: Large display
<b>Power supply VNT 0650 Internal (optional)</b>	85 – 264 VAC / 24 VDC, 1,1 A
<b>Fieldbus (optional)</b>	Selectable: Modbus, PROFIBUS DP, DeviceNet, Ethernet/IP
<b>Analog board (optional) VEA 20451</b>	2 Analog outputs 0(4) - 20 mA, load max. 500 Ω, potential free, common reference 2 Analog inputs 0(4) - 20 mA, input impedance 100 Ω, potential free, common reference
<b>Wall housing</b>	Wall housing IP65, 380 mm x 300 mm x 236 mm Netzteil 85 - 264 VAC / 24 VDC, 2 A
<b>Power supply</b>	85 – 264 VAC / 24 VDC, 2 A, Panel mount unit
<b>Power supply</b>	85 – 264 VAC / 24 VDC, 1,25 A, Tabletop device
<b>Event printer</b>	Printer with serial interface RS232 and system cable
<b>Large displays</b>	Selectable: VLD 20100 (LED, 100 mm); VLZ 20045 (LCD, 45 mm); VLZ 20100 (LCD, 100 mm)

## Equipment supplied

Designation	Type	Material number
<b>Front-of-panel unit with software VWF 20650 for weighfeeder</b>	VEG 20650	
Front-of-panel unit		V082001.B01
Front-of-panel unit with option Modbus		V082001.B02
Front-of-panel unit with option PROFIBUS		V082001.B03
Front-of-panel unit with option DeviceNet		V082001.B04
Front-of-panel unit with option Ethernet/IP		V082001.B05
<b>Communication modules</b>		
Modbus	VSS 28020	V081902.B01
PROFIBUS	VPB 28020	V081901.B01
DeviceNet	VCB 28020	V081903.B01
Ethernet/IP (software activation key)	VET 20700	V040035.B01
<b>Options</b>		
Power supply for assembly inside the device	VNT0650	V082050.B01
Analog board with 2 analog inputs and 2 analog outputs	VEA 20451	V054098.B01
Protection class IP65 to front panel (set of clamps)		V082039.B01
<b>Software</b>		
EasyServe	VPC 20150	E144541.01
<b>Large displays</b>		
Large display 5-digit, LED, 100 mm digit height	VLD 20100	V090252.B01
Large display 6-digit, LCD, 45 mm digit height	VLZ 20045	V067304.B01
Large display 5-digit, LCD, 100 mm digit height	VLZ 20100	V066611.B01