

UDC 6300 Process Controller and Process Indicator

Specification

Overview

The UDC 6300™ is our top-of-the-line, stand-alone Process Controller. This price-performance leader combines unparalleled functionality and performance with an effective and easy to use operator interface.

The UDC 6300 addresses the needs of the continuous process industries such as Hydrocarbon Processing, Pulp and Paper, Power Generation, Metals, Fine Chemicals, and Consumer Goods, where product quality, high throughput, and reliability are prime considerations.

A cost effective Indicator version is also available. The indicator contains Math Functions as a standard feature but contains no control functions except for alarms which are optional.

Brilliant bargraph displays and Multi-language prompts in English, French, or German make the device easy to read, configure, and operate.

Optional RS485 ASCII communications allows the UDC 6300 to be configured and monitored using Honeywell's, Windows™-based, LeaderLine PC Software (LPCS) Personal Computer program.

UDC 6300 can be seamlessly integrated to Honeywell's **TotalPlant®** Solutions (TPS) system. (TPS is the evolution of TDC 3000®X.) MODBUS™ RTU communications is also available.

The UDC 6300 handles basic control strategies at low cost and is easily upgraded to higher functionality to meet advanced control strategies such as Dual Loop, Cascade, Feedforward Control or those requiring logic or math functions.

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™Windows is a trademark of Microsoft

™MODBUS is a trademark of AEG Modicon

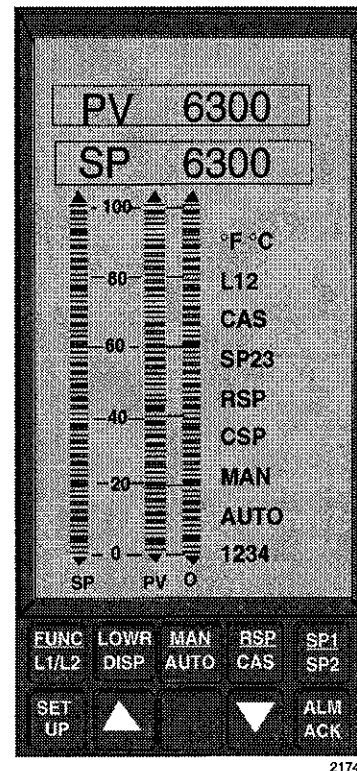


Figure 1 — UDC 6300 Process Controller

Features

3 Brilliant Bargraphs - Vertical display of Setpoint, Process Variable, and Output.

Dual Digital Displays - Two nine-character, vacuum fluorescent, alphanumeric digital displays provides accurate indication of PV, SP, Output, etc. (4 digits).

Accutune II™ - Provides a new, truly plug and play tuning algorithm, which will, at the touch of a button or through a digital input, accurately identify and tune any process including those with deadtime and integrating processes. This speeds-up and simplifies startup plus allows retuning at any setpoint. Also included is the original Accutune

Features, continued

adaptive tuning that can automatically retune whenever a SP step change is implemented or whenever a PV disturbance occurs.

Fuzzy Logic - This new feature uses fuzzy logic to suppress process variable overshoot due to SP changes or externally induced process disturbance. It operates independently from Accutune tuning. It does not change the PID constants, but temporarily modifies the internal controller response to suppress overshoot. This allows more aggressive tuning to co-exist with smooth PV response. It can be enabled or disabled depending on the application or the control criteria.

Features, continued

Short Depth - Only nine-inch back of panel depth provides more mounting flexibility and reduces panel costs.

DIN Panel Size - Standard 72 X 144mm bezel

Individual Tactile Keys - Provide reliable positive feedback.

CE Mark - Conformity with 73/23/EEC, Low Voltage Directive and 89/336/EEC, the EMC Directive.

Easy Configuration - Multi-language prompts in English, French, and German, through a single, front panel keyboard. No programming language is required. Personal Computer Software configuration package available.

4 Analog Inputs Standard - Four high-level inputs -1 to 5V, 4 to 20 mA, or 10 to 50 mA.

Direct Temperature Sensor Input with Linearization (optional) - A fifth input is available with configurable T/C, RTD, or linear inputs or as a Pulse Input.

Dedicated Digital Inputs (Optional) - Two dedicated, fully isolated Digital Inputs which require dry contact activation.

Universal Digital Input / Outputs (Optional) - Four, fully isolated Universal Digital I/O's can be configured as Open Collector Outputs (from 1 to 4), or Digital Inputs (from 3 to 6) depending on the application requirements.

24 Vac/dc Operation Standard - 115Vac and 230Vac optional instrument power.

Feedforward Summer - This standard feature uses any input, following a Ratio/Bias calculation, **summed** directly with the computed PID output value to provide a resultant output to the final control element.

Weighted Average - Computes the weighted average of any two inputs.

Dual Loop - Internal Cascade (optional) - Two independent loops of control or Internal Cascade linking of the primary and secondary controllers in one device. Includes Output Override Algorithm.

Features, continued**Second Current Output (optional)**

- Accuracy $\pm 0.05\%$ of full scale
- Isolated
- Configurable as Control Output or Auxiliary Output.

Serial Communications - Select either RS422/485, MODBUS RTU, or Honeywell DMCS Interface for connection to a multi-drop, PC-based or Distributed Control System. Serial integration with **TotalPlant Solutions (TPS)** is also available.

Transmitter Power (Optional) - 24Vdc power to supply one or two, 4 to 20 mA transmitters.

Fast Sample Rate - Configurable from 3 to 12 times per second depending upon the number of loops or inputs.

Square Root Extraction, Ratio-Bias, and Digital Filter - Configurable on all inputs.

Sealed Front Face - Capable of meeting NEMA 3 and IP65 (i.e. hosedown) requirements.

Output Rate Limiter - A maximum output rate may be configured for both the upscale and downscale output directions.

Setpoint Rate - Lets you define a Ramp Rate to be applied to any Local Setpoint change. A separate Upscale or Downscale rate is configurable. A single Setpoint Ramp is also available as an alternative.

Flashing Alarm Indicators

- Bargraphs flash on alarm condition
- Acknowledge key stops flashing.
- Numerical display of active alarm.

Two Sets of Tuning Constants - Two sets of PID parameters can be configured for each loop and automatically selected.

Deadtime Block - Configurable Deadtime of 0 to 60 minutes for Input 3.

Configurable Process ID Tag

A 9 character alphanumeric identification tag in lower display.

Configurable PV Tag - Configurable 3 character alphanumeric tag in the upper PV display.

Features, continued

Security Lockout - Five levels of keyboard security accessed by a configurable four digit code.

Math Functions (Standard on Indicator - Optional on Controller)

- **Algorithms** - Two pre-configured algorithms for easy implementation into either control loop. They can be linked or used individually and include the capability of using a Ratio and Bias with any input. You can select two from the following menu:

Summer - will add/subtract up to three inputs with the results as the derived PV or SP.

Multiplier/Divider - uses two or three analog inputs to calculate a derived PV or SP. Available with or **without Square Root**.

Input High/Low Select - specifies the PV or SP as the higher or lower of two inputs.

Feedforward Multiplier - uses any input, multiplied by the calculated PID output to provide a resultant output which is sent to the final control element.

- **Gain Scheduling** - 8 Gain tuning values may be applied to 8 Process Variable (PV) bands for ideal tuning on known non-linear processes.

- **8 Segment Characterizers** - Two characterizers are available that can be applied to Input 2, Loop 1 Output, Loop 2 Output, or Input 4.

- **Polynomial Curve Characterizer** - A fifth order polynomial equation can be used on any one of the analog inputs.

- **Logic Blocks** - 5 Logic Blocks configurable as OR, NOR, AND, NAND, XOR, XNOR, or COMPARATOR; each having two inputs and one output. The blocks may be linked.

- **Totalizer** - Calculates and displays the total flow volume as measured by Input 1 or derived by either Math Algorithm. Displayed value is eight digits with a configurable scaling factor. The totalizer value may be reset automatically.

Features, continued

Auto/Manual Station Plus Backup Control

- Uses a single UDC as both an Auto/Manual Station *plus* a back-up PID controller if the primary loop controller fails. Since PID control is sometimes implemented in a PLC, this is a cost effective way to insure the process does not have to shut-down or remain in Manual mode if the PLC fails. Switching from the Auto/Manual Station to back-up control mode is achieved using the Digital Input option.

Standby Manual Module

- A separate 1/4 DIN Standby Manual module accessory (P/N 30755469-001) provides a hard manual 4 to 20 mA signal to the final control element whenever the controller is removed from service.

Alarms

The four Digital Outputs can be configured for alarms. Each of the four alarms can be set to monitor two independent setpoints. Each alarm can be a high or low alarm. The alarm type can be selected to reference any of the inputs or other controller parameters. Bargraphs flash and alarm window illuminates when new alarm conditions occur. Pushing the alarm acknowledge key stops the flashing, but maintains alarm condition until it is resolved.

Control Algorithms

Depending on the control output type specified, the controller can be configured for the following control algorithms:

- ON/OFF Control
- PID - A Equation
- PID - B Equation
- PD with Manual Reset
- Three Position Step Control

Output Algorithms

The UDC 6300 controller is available with the Output Algorithms listed:

- Current Proportional
- Current Proportional Duplex
- Time Proportional
- Time Proportional Duplex
- Current /Time Duplex
(Time = Heat or Cool)

Inputs

Analog Inputs

- Four High Level inputs are standard (1-5V, 4-20mA, or 10-50mA).
- A fifth input is available as an option and can be one of several types:
 - a low-level thermocouple or RTD,
 - a linear input (mA, Volts, or mV),
 - a pulse counter input for use with frequency output devices.

Any input can be used as a Process Variable, Remote Set-point, or input for a Math algorithm.

The sample rate for the high-level inputs is selectable from 3 to 12 times per second depending upon the amount of functionality configured. The maximum sample rate for 2 PID loops is 6 times per second.

All inputs are keyboard selectable.

A configurable digital filter of 0 to 120 seconds provides signal damping for each input.

The UDC 6300 is factory calibrated for all the ranges listed in Table 1. Recalibration should not be necessary; however, field calibration may be easily done, if desired.

Six Digital Inputs (optional)

The Digital I/O model provides two dedicated Digital Inputs, plus four more Digital I/O's that can be user configured as either inputs or outputs. As digital inputs, each can perform one of many configurable functions. Refer to page 8 for a list of Digital Input functions.

Digital Input 1 and 2 Combinations

Provide additional flexibility by allowing one of the following selections to be combined with Digital Inputs 1 or 2 :

- also selects PID 2
- also selects Direct Control
- also selects Local Setpoint 2
- also disables Adaptive Tune
- also selects Local Setpoint 1
- also switches to Run SP Ramp

Outputs

Current Output

- 4 to 20 mA isolated signal into a load of 0 to 1000 Ohms.

Second Current Output (optional)

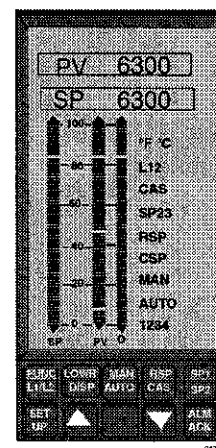
- provides a second 4-20 mA control output or an auxiliary signal representing any of several controller parameters for recording or control purposes.
- provides Indicator Model auxiliary output.

Digital Outputs (optional)

- provides up to four open collector type digital outputs for alarm and/or for control. These can also be used as Digital Inputs. Refer to Page 7 for specifications.

Indicator Model

The UDC 6300 Process Indicator is a modified version of the Process Controller which has been simplified to provide only indication, Math functionality, alarming of analog inputs, and optional Auxiliary Output. No control functionality is included.



The Indicator model has the following features:

- Left Bargraph = Input 1
- Center Bargraph = Input 2
- Right Bargraph = Input 3
- Upper Display - dedicated to any single input as configured by the user.
- Lower Display - can be toggled to display any enabled input.
- Math Functions are standard.

Operator Interface

Keyboard

Nine keys enable complete configuration and operation from the front of the panel.

- SET UP** • places the controller in configuration group select mode. Sequentially displays configuration groups and allows the FUNC key to display individual functions for each group.
- FUNC L1/L2** • used to select the individual functions of selected configuration groups.
 - Also toggles between Loop 1 and Loop 2 display. (except indicator)
- LOWR DISP** • selects the operating parameter for viewing in the lower display.
- Used to exit Setup.

MAN AUTO • alternately selects Manual or Automatic control mode.

AUTO - SP indicated in lower display
MANUAL - Output indicated in lower display.

RSP CAS * • toggles between local setpoint 1 or 2 and remote setpoint (or local setpoint 3).

• Also switch into or out of Internal Cascade Control.

SP1 SP2 • toggles between local setpoint #1 and #2.

ALM ACK • press to acknowledge new alarm condition and stop bargraph flashing.

• Also provides direct access to alarm group.

▲ • increases the value of the selected parameter.

▼ • decreases the value of the selected parameter.

*These keys do not apply to Indicator version.

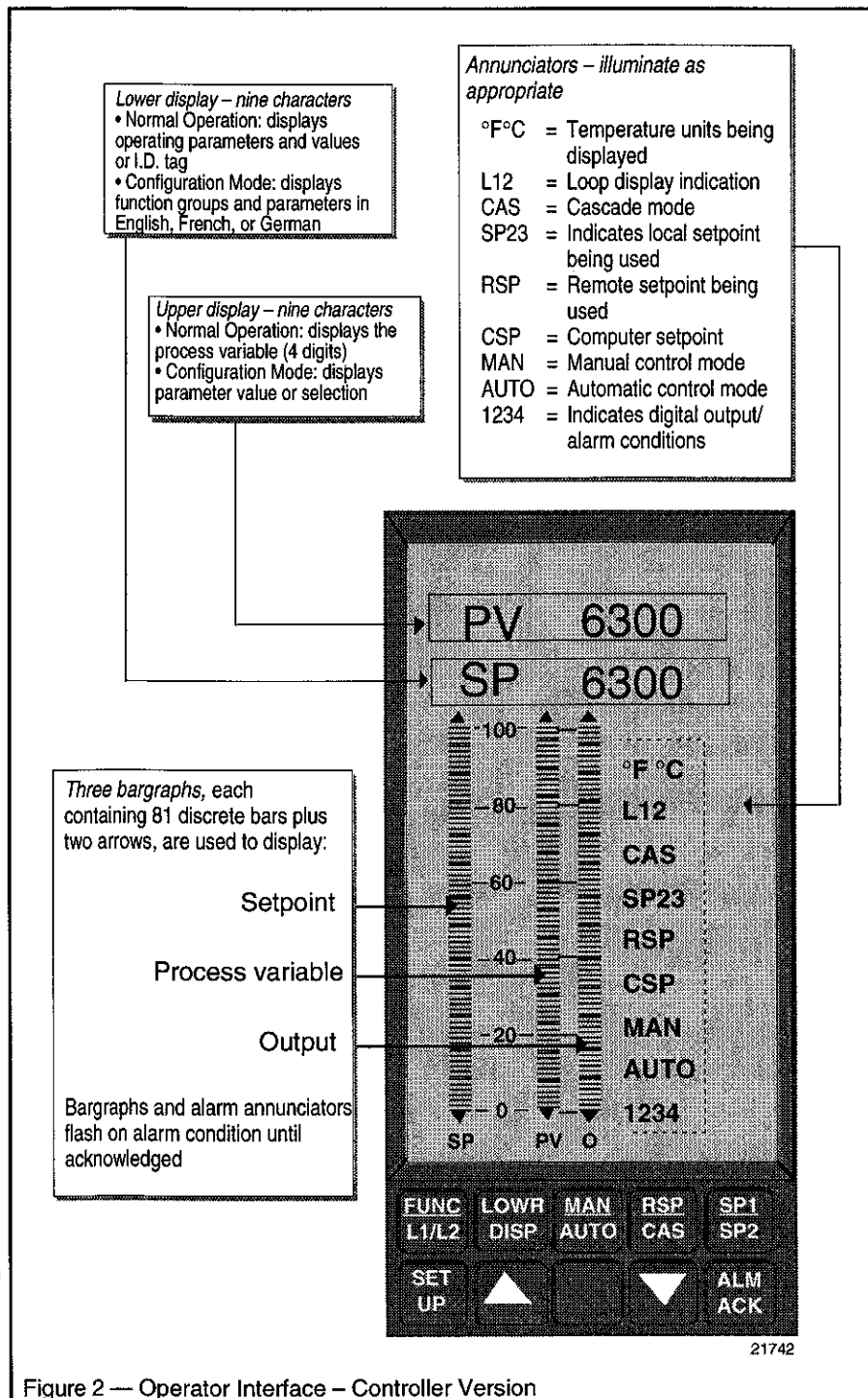


Figure 2 — Operator Interface – Controller Version

Dual Loop Bargraph Display

In addition to the normal Loop 1 or Loop 2 display, a two loop display may also be configured which provides SP and PV of Loop 1 on the left bargraph, SP

and PV of Loop 2 on center bargraph, and Output 1 or Output 2 on the right bargraph display.

Specifications

ANALOG INPUTS - Table 1

INPUT 1, 2, 3, AND 4 - HIGH LEVEL INPUT RANGES		
Volts (dc)	1 to 5	<i>Can be field calibrated to "0" based ranges</i>
Milliamperes (dc)	4 to 20 10 to 50	

OPTIONAL INPUT 5 - Direct Actuation, Linear

Thermocouple	°F	°C	Platinum RTD***	°F	°C
B	105 to 3300	41 to 1816	100 Ohms	0 to 300	-18 to 149
E	-454 to 1832	-270 to 1000	100 Ohms	-300 to 900	-184 to 482
J	0 to 1600	-18 to 871	200 Ohms	-300 to 900	-184 to 482
K	0 to 2400	-18 to 1316	500 Ohms	-300 to 900	-184 to 482
NNM (Ni Ni Moly)	32 to 2500	0 to 1371	Linear Inputs		
NIC* (Nicrosil Nisil)	0 to 2372	-18 to 1300			
R	0 to 3100	-18 to 1704			
S	0 to 3100	-18 to 1704			
T	-300 to 700	-184 to 371			
W5W26**	0 to 4200	-18 to 2315			
Honeywell RH Radimatic	1400 to 3400	760 to 1871	Milliamperes (dc)	4 to 20	
				10 to 50	
			Millivolts (dc)	0 to 10	
				10 to 50	
			Volts (dc)	1 to 5	
				0 to 10	

OPTIONAL INPUT 5 - Pulse Input

Frequency	1 Hz to 25KHz (configurable)
Minimum Span	100 Hz
Resolution	±5 Hz
Signal Level	+5 to +25 Vdc Signal

*Nicrosil-Nisil or Omegalloys™ 14 AWG

** Also Known as type C

*** IEC Alpha = 0.00385

Specifications, continued

Design/Performance	
CE Conformity (Europe)	This product is in conformity with the protection requirements of the following European Council Directives: 73/23/EEC , the Low Voltage Directive, and 89/336/EEC , the EMC Directive. Conformity of this product with any other "CE Mark" Directive(s) shall not be assumed.
Product Classification:	Class I: Permanently Connected, Panel Mounted Industrial Control Equipment with protective earthing (grounding). (EN 61010-1)
Enclosure Rating:	Panel Mounted Equipment, IP 00, this controller must be panel mounted. Terminals must be enclosed within the panel. Front panel IP 65.
Installation Category (Overvoltage Category):	Category II: Energy-consuming equipment supplied from the fixed installation. Local level appliances, and Industrial Control Equipment. (EN 61010-1)
Pollution Degree:	Pollution Degree 2: Normally non-conductive pollution with occasional conductivity caused by condensation. (Ref. IEC 664-1)
EMC Classification:	Group 1, Class A, ISM Equipment (EN 55011, emissions), Industrial Equipment (EN 50082-2, immunity)
Method of EMC Assessment:	Technical File (TF)
Declaration of Conformity:	51309312-000.
Accuracy	Input 1–4: $\pm 0.05\%$ of span typical (± 1 digit for display) Input 5: $\pm 0.10\%$ of span typical for Linear inputs $\pm 0.20\%$ of span typical for T/C and RTD inputs (± 1 digit for display)
Temperature Stability	Inputs 1 - 4: $\pm 0.005\%$ per $^{\circ}\text{F}$ typical Input 5 : $\pm 0.01\%$ per $^{\circ}\text{F}$ typical
Fifth Input Open Circuit Protection	<i>Thermocouple , RTD, and 0–10 millivolt input:</i> Upscale or Downscale burnout available <i>Burnout Current:</i> 0.6 Microamps maximum
Input Impedance	<i>Thermocouple, RTD, Radiamatic, 1 to 5 Vdc, and Millivolt Input:</i> 10 Megohms <i>4–20 Milliampere Input:</i> 250 ohms <i>10–50 Milliampere Input:</i> 100 ohms <i>0–10 Volt Input:</i> 200K Ohms
Loop Sampling Rate	<i>High Level Inputs:</i> Loop sampling selectable from 3 to 12 times per second with restrictions based on the amount of functionality configured. <i>Low Level and Pulse Inputs:</i> Loop sampled 3 times a second.
Input Filter	<i>Hardware:</i> Dual slope integration provides greater than 60db attenuation at 60 Hz. <i>Software:</i> Single pole low pass section with selectable time constants (off to 120 seconds).
Bargraphs	Three bargraphs, each containing 81 discrete bars plus two arrows are used to display PV, Setpoint, and Output of either loop or alternatively display both loops' PV and Setpoint plus either loops' Output.
Digital Displays	Vacuum fluorescent, alphanumeric. Two rows of nine characters each. Upper display dedicated to the process variable. Alternate information displayed during configuration mode. Lower display shows key selected operating parameters and provides English prompts during controller configuration. PV, SP, and Output are limited to 4 digits.
Displays/Annunciators	See Figure 2.
Controller Modes of Operation	Manual (1 or 2 Loops) Automatic with Local Setpoint (1 or 2 Loops) Automatic with Remote Setpoint (1 or 2 Loops) Manual Cascade (2 Loops) Automatic Cascade (2 Loops)

Specifications, continued

Design/Performance (continued)	
Transmitter Power	The output is + 24Vdc \pm 2V and will supply 50mA maximum (two 2-wire transmitters). The output is protected from external short circuits and includes an inductor capacitor filter to block high frequency noise.
Stray Rejection	<p><i>Common Mode</i> AC (50 or 60 HZ): 120 db (with maximum source impedance of 100 ohms) or \pm1 LSB (least significant bit), whichever is greater. DC: 120 db (with maximum source impedance of 100 ohms) or \pm1 LSB, whichever is greater. DC to 1 KHz: 80 db (with maximum source impedance of 100 ohms) or \pm1 LSB, whichever is greater.</p> <p><i>Normal Mode</i> AC (50 or 60 HZ): 60 db (with 100% span peak-to-peak)</p>
Approval Bodies	<p>CSA: General Purpose for ordinary locations (pending)</p> <p>FM: Class 1, Division 2 and General Purpose (pending)</p>
Power Consumption	20VA
Weight	2.8 kg (6.2 lbs)
Dimensions	See Figure 4.
Outputs Current Proportional Control Output Second Current Output (Optional) Open-Collector Digital Outputs (Optional)	<p>4 to 20 mA dc into a negative or positive grounded or non-grounded load of 0 to 1000 ohms. Output range can be set between 0 and 20 mA, and as direct or reverse control action. <i>Resolution:</i> 10 bits <i>Accuracy:</i> 0.5% full scale <i>Temperature Stability:</i> 0.1% full scale/$^{\circ}$C</p> <p>4 to 20 mA dc into a negative or positive grounded or non-grounded load of 0 to 1000 ohms. Output range can be set between 0 and 20mA, and as direct or reverse control action. The range of the second current output, as a function of the selected variable, can be scaled. This output can be used as a SECOND CONTROL OUTPUT or signal representing INPUT 1, INPUT 2, INPUT 3, INPUT 4, INPUT 5, DERIVED PV, SETPOINT, DEVIATION, or MATH CALCULATION. <i>Resolution:</i> 12 bits <i>Accuracy:</i> 0.05% full scale <i>Temperature Stability:</i> 0.0074% full scale/$^{\circ}$C</p> <p>Four Open-Collector type Digital Outputs available <i>Operating Voltage:</i> +5Vdc to +30Vdc (customer supplied) <i>Maximum Sink Current:</i> 300mA per Output <i>Overload Conditions*:</i> 650 mA minimum for 10 Microseconds</p> <p>* An overload condition exists on an output whose sink current has exceeded the parameters listed. This condition automatically shuts off only the output affected. The output is periodically reset and again checked for overloads.</p> <p>Alarm Outputs All four Digital outputs can be configured via the keyboard to be alarm signals. Up to four setpoints can be independently set as high or low alarm (two for each alarm). Setpoint can be on any input, the process variable, deviation, or output of loop 1 or loop 2. Alarm action can be set as direct or reverse. On alarms based on input signals, a single adjustable hysteresis of 0.0 to 5.0% is provided. The controller can be set to alarm on SHED from communications.</p> <p>Control Outputs Digital Outputs #3 and #4 can be used for Logic Block Output, Time Proportional Control, or Three Position Step Control Outputs.</p>

Specifications, continued

Design/Performance (continued)	
<p>Digital Inputs</p> <p>Dedicated Digital Inputs (Digital Inputs 1 and 2)</p> <ul style="list-style-type: none"> • Two dedicated, fully isolated Digital Inputs. <p>Universal Digital Inputs (Digital Inputs 3, 4, 5, and 6)</p> <ul style="list-style-type: none"> • Four, fully isolated Universal Digital I/O's can be configured as Digital Inputs. <p><i>Note: A limited number of Digital Input combination selections for Digital Inputs 1 and 2 are also available.</i></p> <p><i>Note: Upon re-opening the contact, the original state (or mode) will return.</i></p>	<p>+5 Vdc source for two external dry contacts or isolated solid state contacts.</p> <p>The Digital Inputs can each be configured for one of the following to occur upon contact closure:</p> <ul style="list-style-type: none"> • Switches to Manual mode from Automatic mode • Switches to Local Setpoint control from RSP, LSP#2, or LSP#3 • Switches to LSP#2 from LSP#1, LSP#3, or RSP • Switches to LSP#3 from LSP#1, LSP#2, or RSP • Switches to Direct control action from Reverse control action • Switches to HOLD from RUN during setpoint ramp • Selects PID Set 2 • Selects Input 2 = PV • Selects Input 3 = PV • Selects Input 4 = PV • Selects Input 5 = PV • Resume or Run (i.e. Start) Setpoint Ramp • Output 1 tracks Input 4 • Output 2 tracks Input 4 • Output 2 overrides Output 1 • Goes to Manual Mode and Failsafe Output Level • Downward direction for Pulse Input Setpoint adjustment • Energize Digital Output 3 • Energize Digital Output 4 • Inhibit Integral Action on PID-A or PID-B algorithms • To Remote Setpoint • Display Loop not being displayed • Provides External Reset Feedback via Input 3 • Switches to Auto/Manual Station • Switches to Purge (Momentary) • Switches to Low Fire (Momentary) • Selects Remote Setpoint as Input1, Input2, Input3, Input4, or Input5(D/I 3,4,5,and 6 only) • Initiates Tune—On-Demand Tuning (Momentary)
Communications Interface	
DMCS	<p>Distributed Manufacturing Control System requires a Honeywell Gateway 500.</p> <p><i>Baud Rate:</i> 19200 Baud</p> <p><i>Length of Link:</i> 4000 ft. maximum</p> <p><i>Link Characteristics:</i> two wire, multi-drop proprietary Honeywell protocol, 31 drops maximum</p>
RS422/485	<p><i>Baud Rate:</i> 300, 600, 1200, 2400, 4800, 9600, 19200 Baud, selectable</p> <p><i>Parity:</i> Odd or Even</p> <p><i>Length of Link:</i> 4000 ft. maximum</p> <p><i>Link Characteristics:</i> two wire, multi-drop RS422, ASCII protocol, 15 drops maximum</p>
485 MODBUS RTU	<p><i>Baud Rate:</i> 300, 600, 1200, 2400, 4800, 9600, 19200 Baud, selectable</p> <p><i>Data Format:</i> Floating point or integer</p> <p><i>Length of Link:</i> 4000 ft. maximum</p> <p><i>Link Characteristics:</i> two wire, multi-drop RS485 MODBUS protocol, 15 drops maximum or up to 31 drops for shorter link length.</p>
TPS Integration (Does not apply to Indicator Models)	<p><i>Baud Rate:</i> 19200 Baud, fixed</p> <p><i>Length of Link:</i> 4000 ft. maximum</p> <p><i>Link Characteristics:</i> two wire, multi-drop RS485, 8 loops maximum / TDC, SDI IOP</p> <p><i>Protocol:</i> Standard Master/Slave RTU format</p> <p><i>Security:</i> CRC-16 Data Error Checking</p>
Standby Manual Module	
Part Number 30755469-001	<p>This 1/4 DIN separately mounted analog accessory provides a hard manual 4-20mA output to the final control element during emergencies or service. See Specification Sheet #51-51-03-14.</p>

Specifications, continued

Environmental and Operating Conditions				
Parameter	Reference	Rated	Extreme	Transport and storage
Ambient Temperature	77 ±5°F 25 ±3°C	58 to 131°F 15 to 55°C	32 to 140°F 0 to 60°C	-40 to 151°F -40 to 66°C
Relative Humidity (% RH)	10 to 55*	10 to 90*	5 to 90*	5 to 95*
Vibration				
Frequency (Hz)	0	0 to 70	0 to 200	0 to 200
Acceleration (g)	0	0.1	0.2	0.5
Mechanical Shock				
Acceleration (g)	0	1	5	20
Duration (ms)	0	30	30	30
Power Requirements				
Voltage	24 ±0.5Vdc 24 ±1Vac 120 ±1 Vac 240 ±2 Vac	21.75 to 26.25 Vdc 23 to 25 Vac 96 to 132 Vac 192 to 264 Vac	20 to 30 Vdc 22 to 26Vac 96 to 132 Vac 192 to 264 Vac	N/A N/A N/A N/A
Frequency (Hz)	50 60	49 to 51 59 to 61	48 to 52 58 to 62	N/A N/A
Transmitter Supply Voltage (at input terminals)	24 Vdc @ 50mA	22 to 26 Vac @ 50mA	22 to 26 Vac @ 50mA	
Front Bezel Moisture Rating	NEMA3 and IP 65			

* The maximum rating only applies up to 104°F (40°C). For higher temperatures, the RH specification is derated to maintain constant moisture content.

General Reference Data

Data	
Isolation (Functional)	<p><i>AC Power</i> : is electrically isolated from all other inputs and outputs to withstand a HIPOT potential of 1900Vdc for 2 seconds per Annex K of EN61010-1.</p> <p><i>Four High Level Inputs</i>: are not electrically isolated from each other but are isolated from all other inputs and outputs to withstand a HIPOT potential of 850 Vdc for 2 seconds.</p> <p><i>Current Outputs</i>: are electrically isolated from all other inputs and outputs and each other to 850Vdc for 2 seconds</p> <p><i>Digital Inputs and Outputs</i>: Isolated from all other circuits to 850Vdc for 2 seconds</p>
Line Noise Effects	<p><i>Surge</i>: The field terminals and power line terminals (except analog terminals) are capable of withstanding the IEEE-472 Surge Withstanding Capability (SWC) Test with no component failures and no incorrect output to 2.5 Kilovolts. The analog input and output terminals are capable of withstanding the IEEE-472 Surge Withstanding test in common mode with no component failures, no reset and no incorrect outputs to 1.0 Kilovolts.</p>

Model Number Interpretation

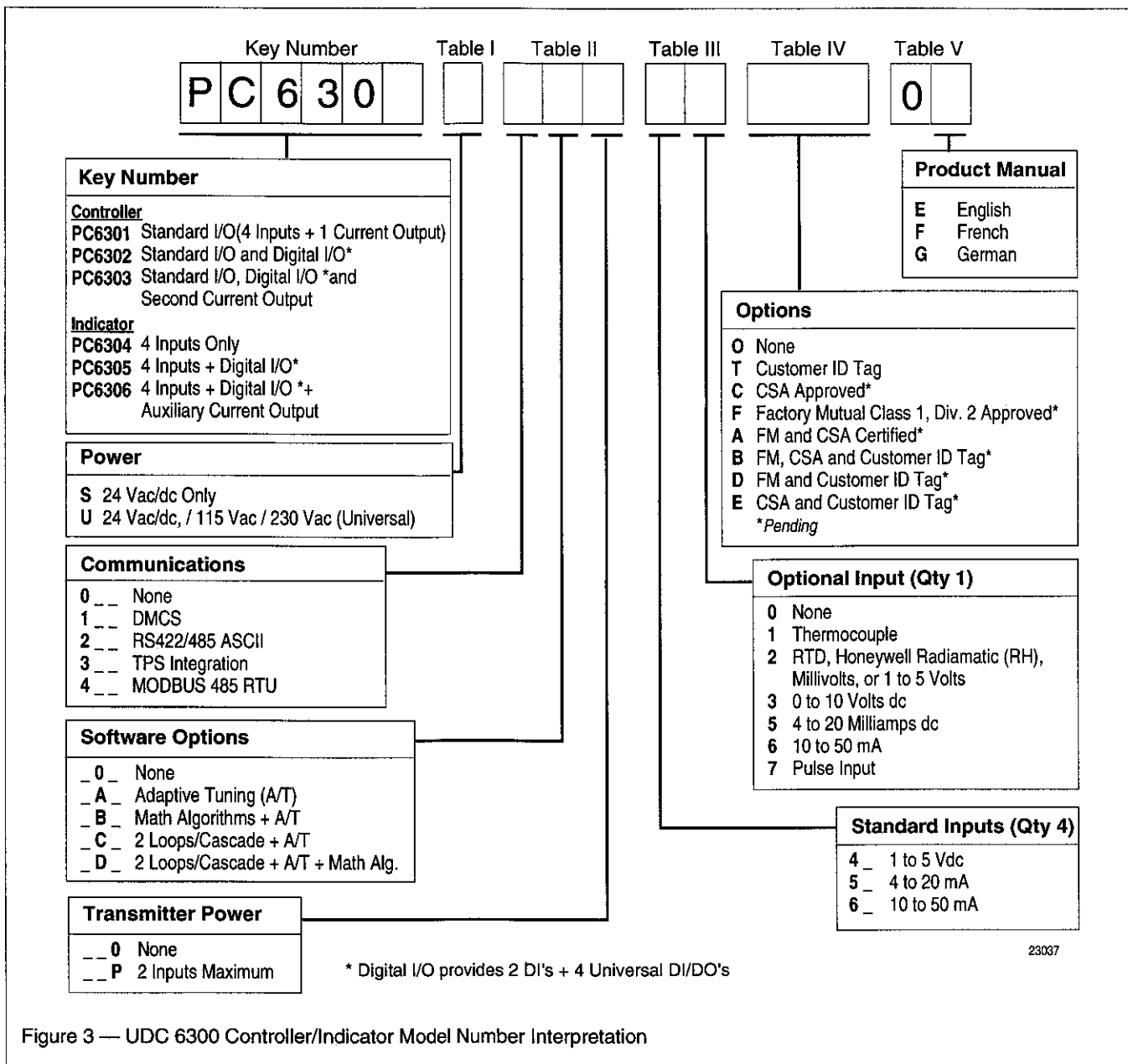
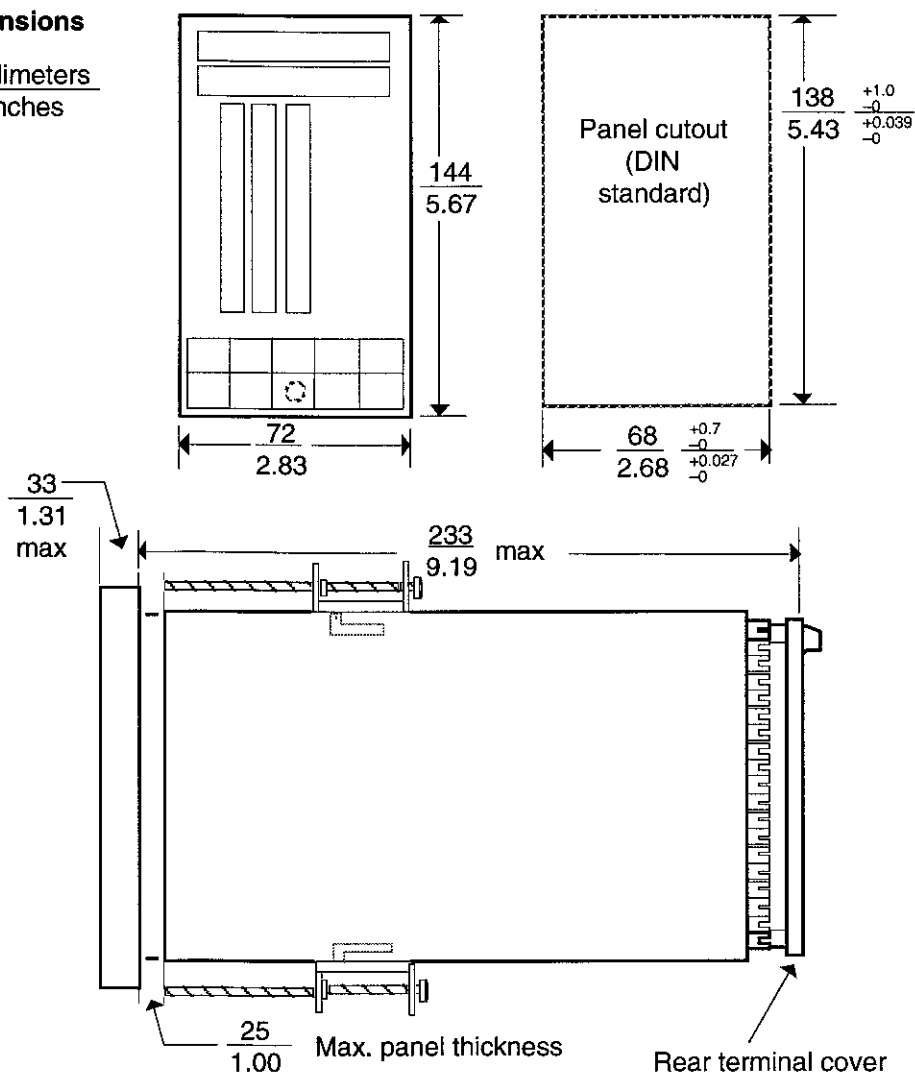


Figure 3 — UDC 6300 Controller/Indicator Model Number Interpretation

Dimensions

Dimensions

millimeters
inches



NOTES:

1. Drawing is not to scale.
2. No minimum horizontal spacing is defined.
3. Controller may be mounted at any angle or tilt.

23039

Figure 4 — UDC 6300 Controller/Indicator dimensions – for reference only

Ordering Information

For the complete ordering information, request the Model Selection Guide for the UDC 6300 Process Controller and Process Indicator.

Honeywell offers a full line of Sensors, Transmitters, and Final Control Devices for use with the Controllers and Recorders. These devices include:

- Thermocouples, RTDs
- Digital Panel Indicator,
- Pressure Transmitters,
- Flow Transmitters,
- Liquid Level Transmitters.
- Valve, Actuators, and Electric Motors.

Specifications are subject to change without notice.

Distributor :

For more information, contact your nearest Honeywell Response Center listed below.

Industrial Automation and Control

Honeywell Inc.

In the U.S.A.: Honeywell Industrial Automation and Control, 16404 North Black Canyon HWY., Phoenix, AZ 85023, (800) 343-0228

In Europe: Honeywell S.A., 80084 Amiens Cedex 2, (33) 22.54.56.56

Honeywell Control System Ltd., Honeywell House, Bracknell, UK-RG 12 1 EB, (44) 1344 826000

In Japan: Yamatake-Honeywell Co. Ltd., Nagai Int'l Bldg., 2 - 12 - 19 Shibuya-Ku, Tokyo 150 Japan, 81-3-3486-2051

In Asia: Honeywell Asia Pacific Inc., Room 3213-3225, Sun Hung kai Centre, No. 30 Harbor Road, Wanchai, Hong Kong, (852) 829-8298

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