



ITC 650

Levelpro Multichannel Process Display with Datalogger, Contacts and Analogue Outputs

Functionalrangestandard

- ▶ Configuration of max. 60 channels via inputs, outputs, controller, profiles
- ▶ connection of channels via mathematical / logical functions
- ▶ 8 integrated PD / PI / PID controller

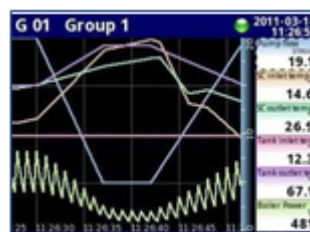
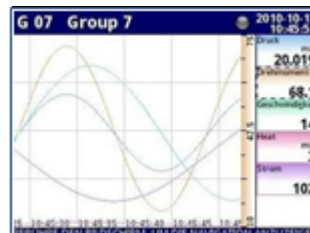
Datalogger

- ▶ logging of max. 60 channels
- ▶ 2 selectable measuring rates (max. 10Hz)
- ▶ extensive triggering functions
- ▶ internal memory 1,5 GB
- ▶ data transfer via USB stick / Ethernet

Product characteristics

- ▶ front panel housing 96 x 96 mm
- ▶ graphic 3,5" TFT monitor, touchscreen
- ▶ 3 free fittable slots, 22 different input / output modules
- ▶ transducer supply 24 V_{DC}
- ▶ communication interface:
3 x RS-485, 1 x RS-232, (Modbus RTU)
2 x USB-Host-Port,
Ethernet (Modbus TCP, Java Applets)

Displaymodes

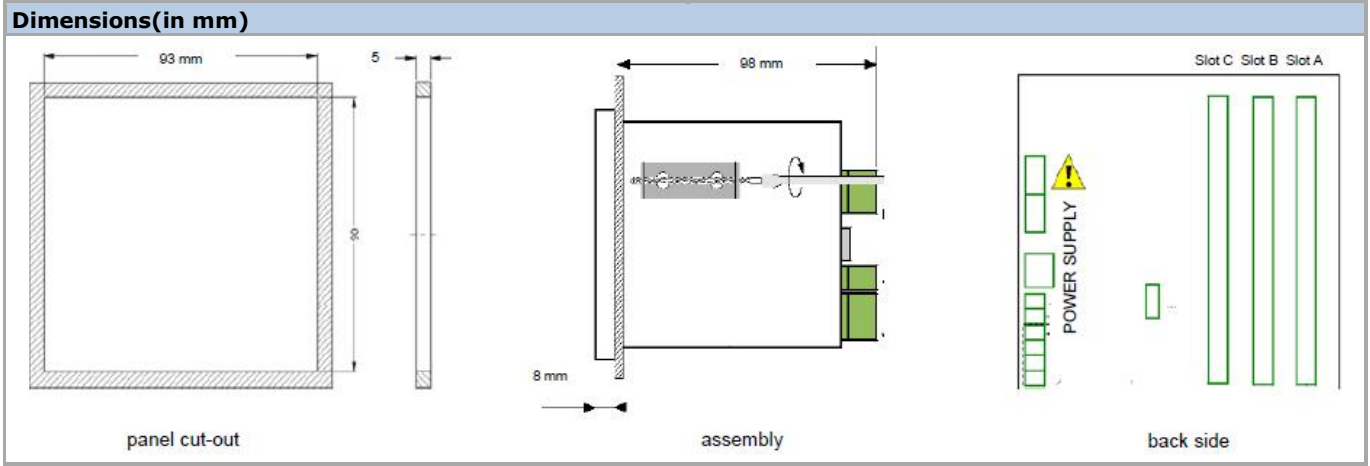


Signal input/output		
UI4,UI8,U16, I16		
Description	4/8/16current/voltageinputs withcommonground	
Input range/Resolution	-2...13V/ 1mV	-2...13V/ 1mV
Measurement ranges	0...5V, 1...5V, 0...10V, 2...10V	0...5V, 1...5V, 0...10V, 2...10V
Accuracy	0,1%@25°C	0,1%@25°C
Overload/Impedance	20%/ 100kΩ	20%/ 100kΩ
IS6		
Description	6current inputs, isolated	
Input range/Resolution	3...30mA/ 1μA	
Measurement ranges	4...20mA	
Accuracy	0,25%@25°C	
Overload/Impedance	50mA-resettablefuse/ 1750Ω@4mA, 400Ω@20mA	
TC4,TC8*		
Description	4/8 thermocoupleinputs	
Input range/Resolution	-30...30mV/1μV	-30...30mV/1μV
Overload/Impedance	20%/ 1MΩ	20%/ 1MΩ
Measurement ranges	Typ:K, S, J,T,N,R, B,E, L(GOST), -25...25mV, -100...100mV	
RT4*		
Description	4RTD inputs (resistance thermometer)	
Input range/Resolution	0...325Ω/ 0,01Ω	0...325Ω/ 0,01Ω
Measurement ranges	Pt100, Pt500, Pt1000, Pt ' 50, Pt ' 100, Pt ' 500, Cu50, Cu100, Cu ' 50, Cu ' 100, Ni100,Ni500,Ni1000, 0...300Ω, 0...3kΩ, 2/3/4-wire	
UN3		
Description	3universalinputswithgalvanicallyisolationforcurrent,voltage, thermocouplesand RTDs	
Current/voltageinputs		
Input range/Resolution	-1...12V/ 1mV	-2...30mA/ 1μA
Measurement ranges	0...5V, 1...5V, 0...10V, 2...10V	0...20mA, 4...20mA
Accuracy	0,1%@25°C	0,1%@25°C
Overload/Impedance	20%/ >100kΩ	20%/ <65Ω
Thermocoupleinputs*		
Input range/Resolution	-10...30mV/2μV	-10...120mV/ 4μV
Measurement ranges	Typ:K, S, J,T,N,R, B,E, L(GOST), -25...25mV, -100...100mV	
Overload/Impedance	20%/ >1,5MΩ	20%/ >1,5MΩ
RTD inputs*		
Input range/Resolution	0...325Ω/ 0,01Ω	0...325Ω/ 0,1Ω
Measurement ranges	Pt100, Pt500, Pt1000, Pt ' 50, Pt ' 100, Pt ' 500, Cu50, Cu100, Cu ' 50, Cu ' 100, Ni100,Ni500,Ni1000, 0...300Ω, 0...3kΩ, 2/3/4-wire	
D8,D16		
Description	8/16binary inputs, each4inputs withcommonground	
Input range	0...30V,Uin<1V=LOW, Uin>4V=HIGH	
Curr. consumption/Isolation	15mA(24V),5mA(10V), 2mA(5V)/ 500V	
Processing	8bit/2nibbles/1byte(D8), 16bit/4nibble/1integer(D16)	
FI2, FI4		
Description	2/4 current inputs withbalancecounter(flowmeter)+ 2/4 standard-current inputs with commonground	
Input range/Resolution	-2...30mA/ 1μA	
Measurement ranges	0...20mA, 4...20mA	
Accuracy	0,1%@25°C	
Overload/Impedance	20%,50mA-resettablefuse/ 100Ω	
Processing	Reset ofcounter: internal/external/autoreset	
FT2,FT4		
Description	2/4 tachometer/flowmeterinputs(quadraturepulseinputs)or2/4tachometer/flowmeterinputs(eachwithonepulse	
Pulseinputs		
Input range	0...30V,Uin<1V=LOW, Uin>5V=HIGH, 0,1Hz... 50kHz	
Curr. consumption/Isolation	12mA(24V)/ 2kV	
Processing	Operationmodes: tachometer+counter(up/down),reset ofcounter: internal/external/autoreset	
Current inputs		
Input range/Resolution	-2...30mA/ 1μA	
Accuracy	0,1%@25°C	
Overload/Impedance	20%,50mA-resettablefuse/ 100Ω	
CP4		
Description	4counters eachwithtwopulseinputswithgalvanicallyisolation, oneprogrammableinput andonerest input	
Input range	0...30V,Uin<1V=LOW, Uin>10V=HIGH,max.5kHz	
Curr. consumption/Isolation	14mA(24V),6mA(10V), 50mA-resettablefuse/2kV	
Processing	Operationmodes: A+B/A-B/ counter(up/down)/quadraturecounter, reset of counter:internal/external/autoreset	

S8, S16		
Description	8/16solidstaterelayoutputs (SSR)withPWM-function,each8outputs (onegroup)withseparate supply(internal/external)	
Max. current	Poweredinternally: 10mA,max.50mAeachgroup, poweredexternally: 100mA,max.500mAeachgroup	
Max. voltage	Poweredinternally:>8V, poweredexternally: >Uext.-0,5V	
Externalsupply	10...30V	
PWM-Period/-resolution	0,1...1600s / 0,1s	
PWM-Frequezy/dutyfactor	5kHz(internally), 20µs (output quantization)/ 0...100%, resolution15bit	
R45,R81		
Description	4SPDT-relayoutputs (SinglePoleDoubleThrow)	8SPST-relayoutputs(SinglePoleSingleThrow)
Max. current/voltage	5A,cosφ =1eachoutput/250VAC	1A,cosφ =1eachoutput/250VAC
Isolationstrength	>1kVfor60s	>1kVfor60s
IO2, IO4		
Description	2/4passivecurrent outputs4...20mA	
Output range/Resolution	3...22mA, 50mA-resettablefuse/ 12bit	
Accuracy	0,1%@25°C	
Voltagedropout/ext. supply	Max.9V/ 9...30V	
*Accuracydependsonselectedmeasurementrange,pleasecheckmanualofdevice		
Supply		
Supplyvoltage	standard: 85...260VAC/ VDC option: 19...50VDC/ 16...35VAC	
Powerconsumption	15VA,max.20VA	
Transmittersupply		
DC	24VDC±5%,max. 200mA(not possiblefor UN3)	
Communication/ Performance		
Communicationinterface	standard: RS-485(ModbusRTU), Master/ Slave USBHost(onrearpanel/front side), USBdevice(service) option: 3x RS-485/RS-232, Master/Slave 2x USBHost, 1x USBdevice, (service) 1xEthernet 10Mbit/s (RJ45, ModbusTCP, JavaApplets,Webserver)	
Typeof protection		
Versionwithout / With USB-port	standard: IP65(front foil) IP40(front USB) option: IP54(withlockablefront)	
Permissible temperatures		
Operatingtemperature	0...60°C	
Storage temperature	-10...70°C	
Electrical protection		
Electricalsafety	EN 61010-1	
EMC	EN 61326	
Miscellaneous		
Display	graphic TFT, 3.5", touchscreen, coloured(16bit), 320x 240pixels	
Housingdimensions	96x96x 100 mm	
Housing	panelmounting	
Housingmaterial	NORYL-GFN2SE1	
Extendedfunctions		
Integrateddateandtimedisplay		
Adjustable contrast andbrightness of display, Screensaver		
Programmableupper/ lowerdeviationmessages, traffic lights function(changeof thebackgroundcolour)		
Readout numeric(number)/ binary(text)		
Multilingualmenunavigation(EN,DE, FR, CZ,HU,RO, RU, PL, ES)		
Passwordprotection		
Allocationofchannels in10groups(max.6channels pergroup)		
Programmabledisplayfilter+ scaling(linear/ userdefined)		
Extensivemathematical/ logicalfunctions		
Userdefinedtime/ event drivenprofiles		
Acousticalsignal		
16virtualrelays		
DataandconfigurationtransferviaUSB stick/Ethernet		

Remote-Desktop

JavaApplets



Accessories		
Licencekey for datalogging capabilities	materialnumber LK-700	Enables datalogging capabilities of ITC 650 for max. 60 channels. For additional activating of function for already delivered ITC 650 serial number is necessary.
Software DAQ-Manager	 materialnumber SW-DAQ	Program for displaying (table or graph), archiving, evaluation and export data stored on ITC 650 with enabled datalogging capabilities. Data are imported via USB flash drive or Ethernet. Export of the data is performed in CSV format. This software is freeware and may be downloaded from our homepage.
Lockable, transparent frontdoor	 materialnumber Z90002	Prevents damage of display and increases access protection.
Mini USB flash drive 4GB	 materialnumber Z90003	Enable transfer of data and configuration between PC and ITC 650 (also with mounted front door).

This data sheet contains product specifications, properties are not guaranteed. Subject to change without notice.

Orderingcode ITC 650							
ITC 650		SLOTA	SLOTB	SLOTC			
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Basic version							
multichannelcontroller							
colour TFTdisplay	1						
touchscreen							
Slot A/B /C		SLOT	SLOT	SLOT			
empty		E 0 0	E 0 0	E 0 0			
4 x voltage input+4 x current input		U I 4	U I 4	U I 4			
8 x voltage input+8 x current input		U I 8	U I 8	U I 8			
16 x voltage input		U 1 6	U 1 6	U 1 6			
16 x current input		I 1 6	I 1 6	I 1 6			
6 x current input (isolated)		I S 6	I S 6	I S 6			
8 x binary input		D 0 8	D 0 8	D 0 8			
16 x binary input		D 1 6	D 1 6	D 1 6			
4 x RTD input		R T 4	R T 4	R T 4			
4 x thermocouple input		T C 4	T C 4	T C 4			
8 x thermocouple input		T C 8	T C 8	T C 8			
3 x universal input		U N 3	U N 3	U N 3			
4 x pulse input		C P 4	C P 4	C P 4			
2 x current input (flowmeters)							
+2 x current input		F I 2	F I 2	F I 2			
4 x current input (flowmeters)							
+4 x current input		F 1 4	F 1 4	F 1 4			
2 x pulse input (flowmeters/ratemeters)							
+2 x current input		F T 2	F T 2	F T 2			
4 x pulse input (flowmeters/ratemeters)							
+4 x current input		F T 4	F T 4	F T 4			
2 x analogue output			I 0 2	I 0 2			
4 x analogue output			I 0 4	I 0 4			
8 x SPST relay 1A			R 8 1	R 8 1			
4 x SPDT relay 5A				R 4 5			
8 x SSR output				S 0 8			
16 x SSR output				S 1 6			
Supply							
85 ...260 V _{AC/DC}					1		
16 ...35V _{AC} /19...50V _{DC}					2		
Communication interface							
RS-485 (Modbus RTU) +USBdevice					1		
USBhostport (back side)							
RS-485 (Modbus RTU) +USBdevice					2		
USBhostport (frontside)							
RS-485 (Modbus RTU) +USBdevice					3		
2xUSBhostport							
3 xRS-485 /RS-232							
2 xUSBhostport					4		
1 xUSBdevice							
1 xEthernet10Mbit/s							
Display foil							
neutral					1 0 0		
customer					9 9 9		consult
Special version							
Standard						0 0 0	
customer						9 9 9	consult
Accessories							
LicenceKey for Datalogger						LK-700	
Software DAQ-Manager						SW_DAQ	
lockable,transparent door						Z900002	
MiniUSBStick 4 GB						Z900003	

This price list contains product specification; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.