Operator Interfaces - Human Machine Interfaces
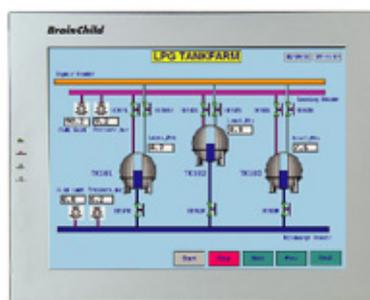
Features

- Many PLCs supported
- Friendly multiple languages supported to the end users
- Temperature controllers & inverters directly connected to HMI via Modbus
- Data logging, bargraphs, trends and alarms
- Animation: display/hide, flash, color changed
- Data entry and data display from/to PLC registers directly
- Free configuration software, configuration for all HMIs from PC software
- Upto 65535 screens in each project, pop-up screen and associated screen supported
- Ladder programming (Soft PLC) supported in HMI and Ladder online monitoring
- Screen security
- Floating point supported
- Ready made registers for Real Time Clock
- Unique Tag database for HMI and PLC registers
- 256 real time alarms, and 30 or 2000 historical alarms
- Global tasks, power-on tasks, list of predefined tasks and screen tasks-before, while and after
- Ready made objects for lamps, button, data entry, data display, trend, alarm, bitmaps, meters
- Action for graphical objects from list of predefined tasks
- Ready-made system coils for changing RTC data by sec., min., hour, day, month, Year

BrainChild

Model	HMI 201	HMI 401
Display		
Resolution	16 X 2(characters X lines)	192 X 64 pixels (4.1")
Objects	Alpha numerical text	Pixel graphics
Display type	STN Monochrome	STN Monochrome
Color	Yellow-Green	Yellow-Green
Brightness control	N.A	N.A
Contrast control	potentiometer	potentiometer
LED	10	0
MTBF backlit	100,000 Hrs	50,000 Hrs
Character dots (W X H)	2.95 X 4.35	5X7, 7X14, 10X14, 20X28
Dot size(W X H),mm	0.55 X 0.5	0.46 X 046
Windows fonts	N.A	Yes
Operator Input		
Data Entry	Keypad	Touch screen (analog resistive)
Function keys	8	N.A
Numeric entry buttons	0-9	keypad object
Hardware		
CPU	OK1-ARM7 Processor	OK1-ARM7 Processor
Speed	44.2 MHz	44.2 MHz
Memory		
Total Memory	512 KB	512 KB
Application	120 KB	120 KB
Data logging	N.A	N.A
Data back up	N.A	N.A
Ladder Memory	62 KB (Max)	62 KB (Max)
CF card capacity	N.A	N.A
Communication ports		
Serial ports, 9 pin Dtype	2	2
Ethernet	N.A	N.A
USB	N.A	N.A
Functions		
Ladder progamming	Yes	Yes
Bar graph	Yes	Yes
Trending	N.A	N.A
Real time Alarms	256	256
Historical Alarms	30	30
Unicode supported	N.A	Yes
Graphical objects	N.A	Yes
Printer port (Serial)	Yes	Yes
Screen saver	N.A	N.A
Electrical		
Power supply	24 V DC +/- 10 %	24 V DC +/- 10 %
Consumption	3 W	3.5 W
Inrush current	400 mA	550 mA
Power on Lamp	N.A	N.A
Battery	3V Lithium,614-CR1225FH,coin	3V Lithium,614-CR1225FH,coin
Mechanical		
Size in mm (W X H X D)	108 X 70 X 32	140 X 77 X 35
Panel cut in mm (W X H)	101 X 63	132 X 70
Installation	Panel mount	Panel mount
Net Weight	150 gms	270 grams
Certifications	CE, UL,cUL	CE, UL,cUL

Environmental

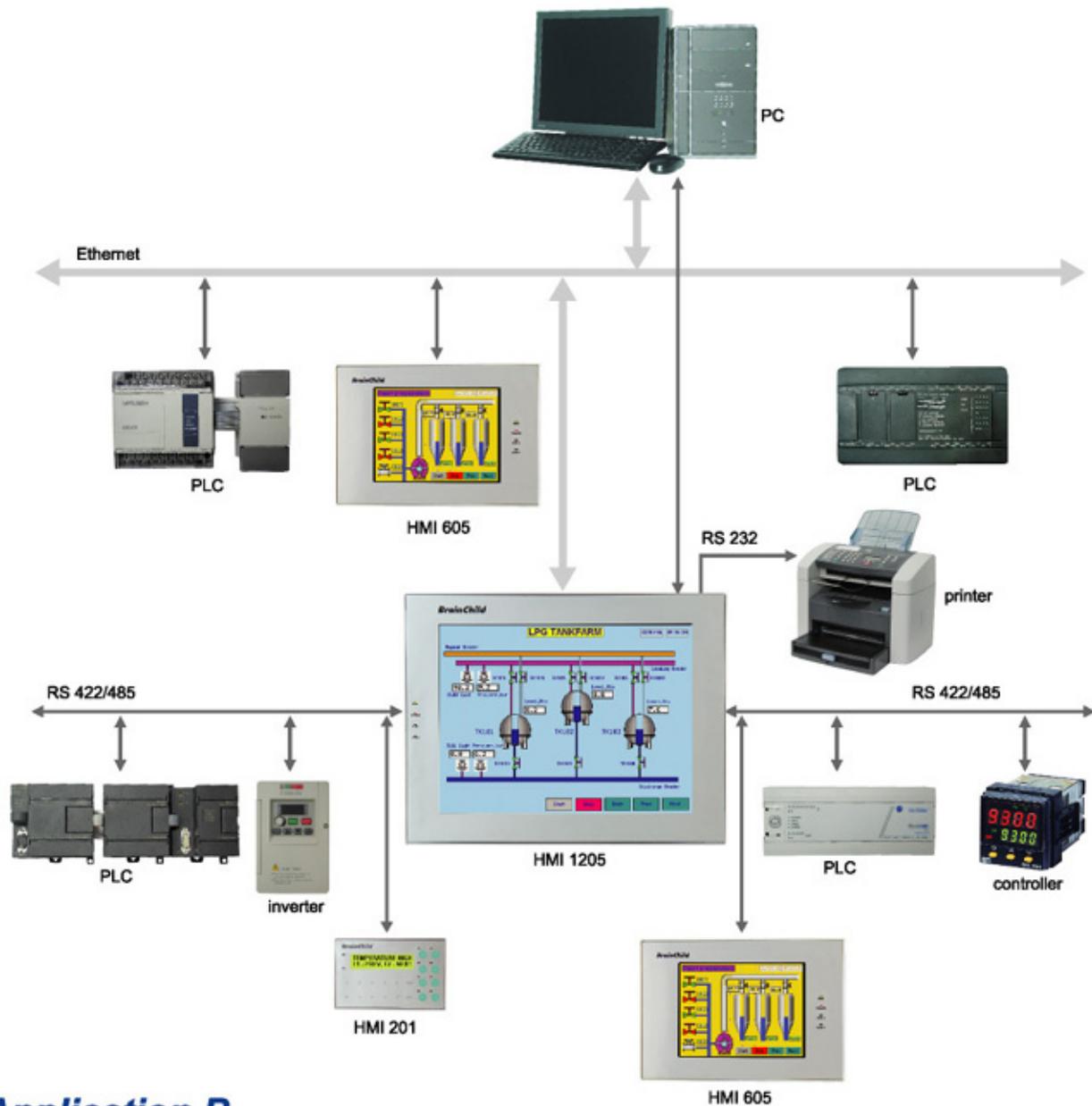|				
Operating temperature	:	0° to 50°C	Immunity to ESD	: Level 3 as per IEC1000-4-2
Storage temperature	:	-20° to 50°C	Immunity to Transiants	: Level 3 as per IEC1000-4-4
Humidity	:	10% to 90% non-condensing	Immunity to Radiated RF	: Level 3 as per IEC1000-4-3
Emmissions	:	EN55011 CISPR A	Immunity to Conducted RF	: Level 3 as per IEC1000-4-6

* N.A = NOT AVAILABLE

	HMI 601	HMI 605	HMI 1205
	320 X 240 pixels (5.7")	320 X 240 pixels (5.7")	800 X 600 pixels (12.1")
	Pixel graphics	Pixel graphics	Pixel graphics
	STN Monochrome	STN Color	TFT Color
	16 grey scales	256 colors	256 colors
	potentiometer	potentiometer	potentiometer
	potentiometer	potentiometer	N.A
	4	4	4
	50,000 Hrs	50,000 Hrs	50,000 Hrs
	5X7, 7X14, 10X14, 20X28	5X7, 7X14, 10X14, 20X28	5X7, 7X14, 10X14, 20X28
	0.34 X 034	0.34 X 034	0.34 X 034
	Yes	Yes	Yes
	Touch screen (analog resistive)	Touch screen (analog resistive)	Touch screen (analog resistive)
	N.A	N.A	N.A
	keypad object	keypad object	keypad object
	SHARP-ARM7 Processor	SHARP-ARM7 Processor	SHARP-ARM9 Processor
	77.4 MHz	77.4 MHz	200 MHz
	4 MB	4 MB	32 MB
	3 MB (Max)	3 MB (Max)	25 MB (Max)
	2 MB (Max)	2 MB (Max)	25 MB (Max)
	512 KB SRAM	512 KB SRAM	512 KB SRAM
	128 KB (Max)	128 KB (Max)	2 MB
	N.A	N.A	256 MB (option)
	2	2	2
	Option	Option	Option
	Option (future)	Option (future)	Option
	Yes	Yes	Yes
	Yes	Yes	Yes
	Real Time + Historical	Real Time + Historical	Real Time + Historical
	256	256	256
	2000	2000	2000
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	24 V DC +/- 10 %	24 V DC +/- 10 %	24 V DC +/- 10 %
	10 W	10 W	20 W
	1A	1A	1A
	Yes	Yes	Yes
	3V Lithium,614-CR1225FH,coin	3V Lithium,614-CR1225FH,coin	3V Lithium,614-CR1225FH,coin
	197 X 139 X 58	197 X 139 X 58	312 X 246 X 47
	184 X 126	184 X 126	295 X 227
	Panel mount	Panel mount	Panel mount
	650 grams	650 grams	2.8 kgs
	CE, UL,cUL	CE, UL,cUL	CE, UL,cUL

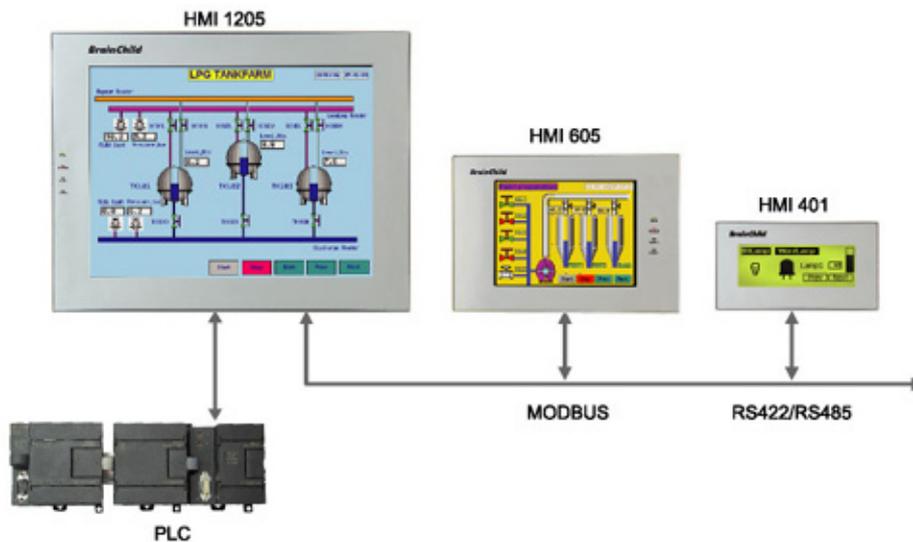|		
Vibration resistance	:	10 Hz-150 Hz, a=1.5 g
Shock resistance	:	Accel:490.5 m/s; Pulse width: 11 mS
Protection-bezel	:	IP65 Keypad for HMI 201 and
		IP 65 touch screen for HMI 401,601,605 & 1205

Application A

HMI as the bridge between different networks in different protocols

PC

Ethernet

PLC

HMI 605

PLC

RS 232

printer

RS 422/485

RS 422/485

PLC

inverter

HMI 1205

PLC

controller

HMI 201

HMI 605

Application B

Multiple HMIs on Modbus

HMI 1205

HMI 605

HMI 401

MODBUS

RS422/RS485

PLC

HMI Studio configuration software

HMI Studio is Windows based user friendly software for HMI configuration and front-end application development. Many ready made objects are available for fast application development like data entry, data display, text, bit lamp, word lamp, real-time trends, historical trends, real-time alarms, historical alarms, date, time, button, single bargraph, multiple bargrah, analog meter, multi language text, bitmap selection, rectangle, circle, lines etc. Other tools include tag database, PLC driver selection, network configuration, ladder programming and data logger.

Other features include application off-line sumulation from PC and online ladder monitoring. Many predefined tasks available for mathematical applications like addition, subtraction of value to a tag along with screen navigataion, Execution of ladder block and key specific tasks like increasing value of tag, decreasing value of tag, acknowledging alarms, navigation of alarms etc. Application task lists include power-on tasks and global tasks. It is possible to configure tasks for a screen before displaying the screen, while displaying the screen and after hiding the screen.

HMI Studio software supports advanced features like pop-up screen and associated screen, predefined System registers for Real Time Clock (RTC) data etc.,, system coils for day-change pulse, hour-change pulse, minute-change pulse, month-change pulse, year-change pulse etc..to reduce application development time and to utilize HMI memory efficiently.

HMI Studio software supports different data types like unsigned integer, signed integer, float, hexadecimal, BCD, binary, ASCII etc, for Integers of 1/2/4 bytes length. Data base export and import options are available along with screen copy to multiple screens which makes friendly environment for the developers.

Memory table for HMI

- Data Registers : 1000
- Retentive Data Registers : 1400
- System Registers : 64
- System coils : 100
- Internal coils : 5000
- Timers : 128
- Non Retentive counters : 128
- Retentive counters : 50

Sister Products-Protocol Converters/Gateways
Bridge between two different PLCs in different protocols

PC-S	For Serial to Serial communication DIN Rail/Panel Mount, DB9, RS232/RS422/RS485, 2 COM ports Ex: Rockwell PLC (DF1) to SIEMENS PLC (PPI) / MODBUS (Master/Slave)
PC-L	For Serial to Lonworks communication DIN Rail/Panel Mount COM1: RS232/RS422/RS485, COM2: Lonworks TP FT10(78 Kbps) Ex: connects your Lonworks device on Modbus Network (Master/Slave)
PC-D	For Serial to DeviceNet communication DIN Rail/Panel Mount COM1: RS232/RS422/RS485, COM2: DeviceNet connector Ex: connects your PLC on DeviceNet
PC-C	For Serial to CAN (J1939) communication DIN Rail/Panel Mount COM1: RS232/RS422/RS485, COM2: CAN-J1939 Ex: connects your PLC on CAN BUS
PC-P	For Serial to Profibus-DP communication DIN Rail/Panel Mount, RS232/RS422/RS485, 2 COM ports COM1: RS232/RS422/RS485, COM2: Profibus DP slave (2 wire RS485) Ex: connects your PLC on Profibus network
PC-E	For Serial to Ethernet communication DIN Rail/Panel Mount COM1: RS232/RS422/RS485, RJ45 for Ethernet connectivity Ex: connects your PLC on Ethernet

HMI Ordering Code

HMI 201 -
HMI 401 -
HMI 601 -
HMI 605 -
HMI 1205 -

Communication port

S = Standard 2 Serial ports, 9 pin, D type

E = Ethernet + 2 Serial ports, 9 pin D type
(available for models 601, 605 & 1205 only)

U = Ethernet + USB + 2 Serial ports, 9 pin D type + CF card
(available for model 1205 only)

Supported PLCs and Drives

PLC	Model
ABB	AC31
Allen Bradley DF1	Micrologix 1000,1200,1500,SLC 5/0X
Aromat FP Series	FP0, FP2, FP3, FP Sigma
ASCII Driver	Universal ASCII
Control techniques	Modbus RTU
Danfoss Drive	VLT2800, VLT5000
Delta	DVP14ES, 32ES, 32XP, 12SA
FATEK PLC	FBs
GE-SNP	90-30
GE-SNPX	90-30
Honeywell	Modbus, ASCII
Idec	Micro, Micro smart
Keyence	KV series, KV10,16, 24, 40, 80, 300
Koyo	DL230, DL240, DL250
LG Master	K Series,10S,30S,60S,100S,50H,200H
LG Master	200 S, 300S,1000S, 80 S
Mentor Drives	II, Commander SE
Mitsubishi	FX Series
Modbus	Generic, Master, Slave
Omron Hostlink	K,H, CQM, CPM1, CPM2, CS1, CJ1
Omron Inverters	
Siemens	S7-Micro series,212,214,221,222,224,226,S7-300
Toshiba	T Series, T1, T2, T3
Toshiba Link port	T/V Series, T1, T2, T3
Toshiba Inverters	S9, G7, S7, S11, A7, G3
Uniteleway	Tsx 7, 37, 57
Yaskawa Inverters	
Yokogawa	F3SP05, 08, 21, 25, 28, 35, 38, 58, 59, V3, V8

HMI-PLC Cable Ordering Code

ABB AC 31 Series	RS232	CA-036-00
ABB AC 31 Series	RS485	CA-036A-00
AB Micrologix	RS232	CA-027A-00
AB SLC 500 (DF1)	RS485	CA-007-00
Aromat FP0 Series	RS232	CA-015A-00
Aromat FP3	RS485	CA-015C-00
Aromat FP Sigma	RS232	CA-015D-00
Aromat FP Sigma	RS485	CA-015E-00
Delta DVP Series	RS232	CA-044-00
FATEK PLC	RS232	CA-079A-00
FATEK PLC	RS485	CA-079B-00
GE 90-30 / Versamax (SNP)	RS485	CA-002-00
GE VersaMax, RJ45	RS232	CA-002A-00
GE VersaMax, DB9	RS232	CA-002B-00
IDEC Micro3	RS485	CA-025A-00
IDEC Microsmart	RS232	CA-025B-00
Keyence KV Series	RS232	CA-018-00
Koyo DL105 / 205 / DL05	RS232	CA-023-00
LG-Master K Series	RS232	CA-037-00
LG-Master K Series	RS485	CA-038-00
LG Master K10S & 10SI PLC	RS232	CA-037A-00
LG Master 200 S Series	RS232	CA-052-00
Mitsubishi FX(8 pin con'r)	RS485	CA-008A-00
Mitsubishi FX(25 pin con'r)	RS485	CA-008B-00
Modbus Slave	RS485	CA-0039-00
Modicon Quantum	RS232	CA-009A-00
Modicon Micro	RS232	CA-009B-00
Omron (Host Link) - 9 pin	RS232	CA-006B-00
Omron (Host Link) - 25 pin	RS232	CA-009C-00
Siemens S7-200	RS485	CA-029-00
Siemens S7-300	RS485	CA-029A-00
Telemecanique TSX-17 Series	RS485	CA-0017-00
Telemecanique TSX-47 Series	RS232	CA-0017A-00
Telemecanique TSX-67 Series	RS485	CA-0017B-00
Toshiba - Programming Port	RS232	CA-003-00
Toshiba T1	RS232	CA-0019A-00
Toshiba T2	RS485	CA-0019B-00
Toshiba T Series (Link port)	RS232	CA-0046-00
Yaskawa	RS232	CA-0011-00
Yokogawa	RS232	CA-0080-00
Yokogawa	RS485	CA-0080A-00

BrainChild

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