



VIII GUIDE PRODUCT



MARKET SEGMENT AUTOMATION LAYER

Aerospace & Aviation
Agricultural, forestry & fishing
Automotive
Biotech
Building Automation
Ceramic & tile
Chemical & Petrochemical
Construction Industry and Equipment Related
Contract Manufacturing
Control / Instrumentation Mfg
Data Storage, HDD

Discrete Parts Manufacturing
Electric wire and cable manufacturing
Electrical & Electronic
Electrical Control / Panel Builders
Entertainment Machinery
Environment, Pollution control
Factory Automation / Assembly machines
Food, Beverage, Animal feed
Government
HVAC / Air-conditioning/
Heat source machines
Lift / Elevator

Machine Builders
Marine & Shipbuilding
Measuring equipment, Analysis equipment
Metals, Mining, Iron & Steel
Oil & Gas
Others
Packaging
Pharmaceutical & Medical
Plastic & Rubber Industry
Power, Utilities and energy
Precision Engineering

Pulp, Paper & Printing equipment
Renewable Energy
Robotics & Conveyor machines
Rubber products
Security, Safety & Rubber products
Semiconductor & IC
Technology
Tobacco, Wine & Beer
Training Institute, Polytechnic & University
Transportation & Transporting machines
Water / Waste Treatment

Sales Dept.



Trainers



Service & Repair

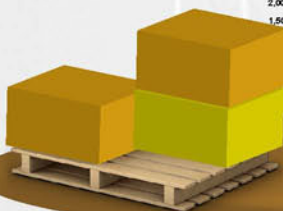
Technical Support

Customer Care

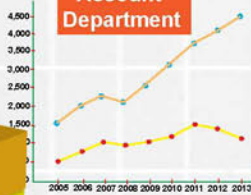


SALES AND SUPPORTS

Shipping Dept.



Account Department



Administrator



IT



Marketing



ADMINISTRATION



DIRECT FACTORY SUPPORT & BACKUP
Application Solution, Technical Consultation, Stock & Delivery

PRODUCT MAP

HMI & PLC

Page 4~8

- Graphic Operator Panel
- Graphic Logic Controller
- Programmable Logic Controller
- SCADA Solution
- Industrial Computer & Flat Panel



Page 9~15

SENSORS

- In-line Concentration / Density Monitor
- Level Transmitter
- Pressure Transmitter
- Force / Weighing Solution
- Pressure Switch
- Level Float Switch
- Flow Sensor
- Universal Display Controller



DRIVE & CONTROL

Page 16~21

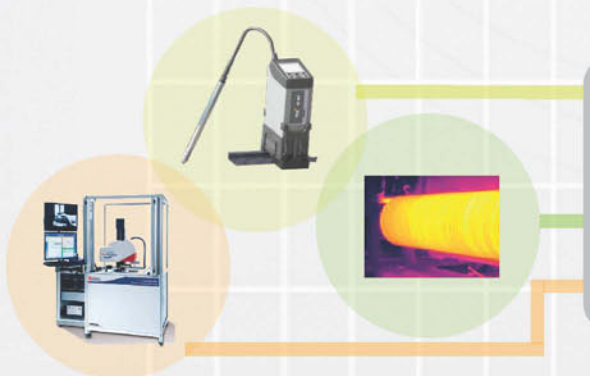
- AC Drive / DC Drive
- Soft Starter
- Servo Motor
- Passive Harmonic Filter
- Text & Graphic Logic Controller
- DAQ Solution
- Remote Access



Page 22~26

METROLOGY

- Contact Measurement System
- Analogue & Digital Probe
- Non-Contact Measurement System
- Laser Scan Micrometer
- IR Thermo-sensor / Thermo Imager
- Color Sensor
- High precision roundness, roughness and contour measurement





Thank You

Our deepest gratitude for your 40 years of support
On July 22, 2012, Pro-face celebrated its 40th anniversary

40th

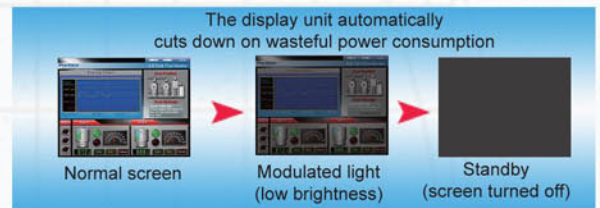


The New GP4000 series, Touchscreen HMI

The New Pro-face Standard : Energy Saving

Equipped with LED backlight LCD + Lighting adjustment function

Energy-saving capabilities have been greatly improved. The GP4000 Series reduces on-site power consumption in a variety of ways. This includes an on-board LED backlight in all models, a lighting adjustment function used to decrease the backlight and a stand-by display after being idle for a set period of time.



Pro-face Remote HMI
Remote Monitoring Software for mobile



- Being installed on a tablet or smartphone, Pro-face Remote HMI software allows operators to check status of HMI screens on multiple applications remotely.
- With support for Android and iOS, Pro-face Remote HMI software allows you to access HMI operation as a sub-display of HMI unit connected with a smartphone and tablet mobile device.

3 quick steps on setting up Pro-face Remote HMI

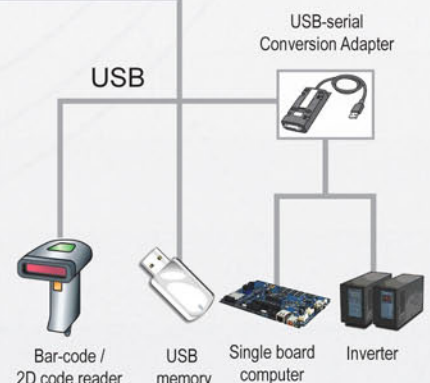
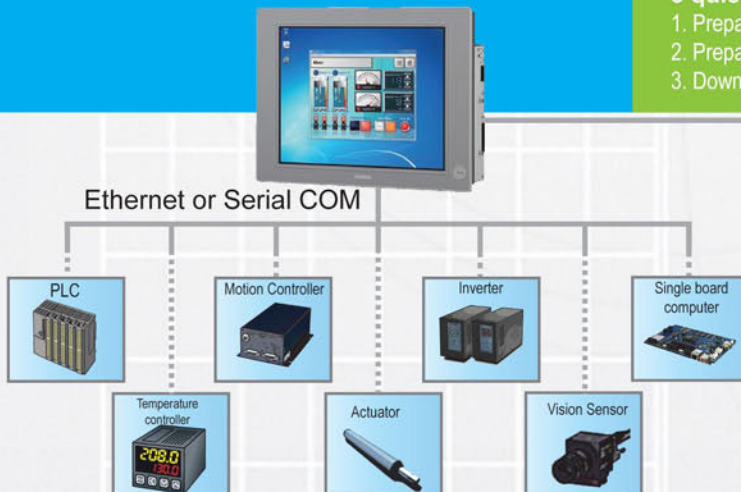
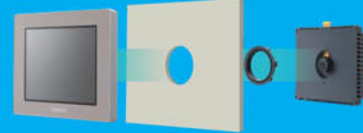
1. Prepare Wi-Fi Router and connect to GP4000.
2. Prepare GP application in GP-Pro EX and transfer into GP4000.
3. Download and install Pro-face Remote HMI in a tablet or smartphone.

Modular type for easy mounting



GP-4301TM / GP-4201TM

- 65,536 TFT Color LCD
- 16-level Brightness
- 320 x 240 pixel (QVGA)
- Analog Touch Panel
- 8MB of application memory
- 128KB of data backup memory





COMPACT

100V

MODULAR

200V

HIGH-SPEED

300S

PC-CAPABLE

500S

Our systems 100V, 200V, 300S and 500S offer you a variety of top solutions and benefits for your central and decentral functions, as well as the long-term protection of your investments. All our CPUs are universally programmable with •WinPLC7 from VIPA •STEP7 from Siemens

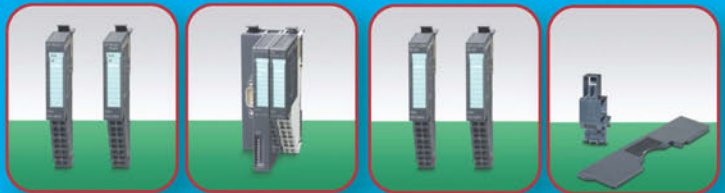


SLIO



SLIO: Clamp modules SLIO: Power modules SLIO: Signal modules digital SLIO: Signal modules analog

FIELDBUS connectors



SLIO: Communication processors SLIO: Interface modules SLIO: Function modules SLIO: SLIO accessories

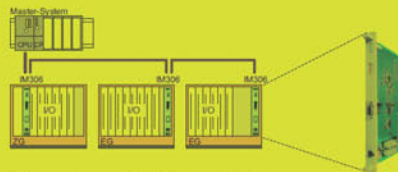
SLIO - the intelligent, decentral I/O system. During development we paid particular attention to the highest cost-effectiveness and long-term efficiency for end users and service providers.

VIPA Teleservice-Modules



TM-E ISDN
TM-E Analog
TM-E GSM/GPRS

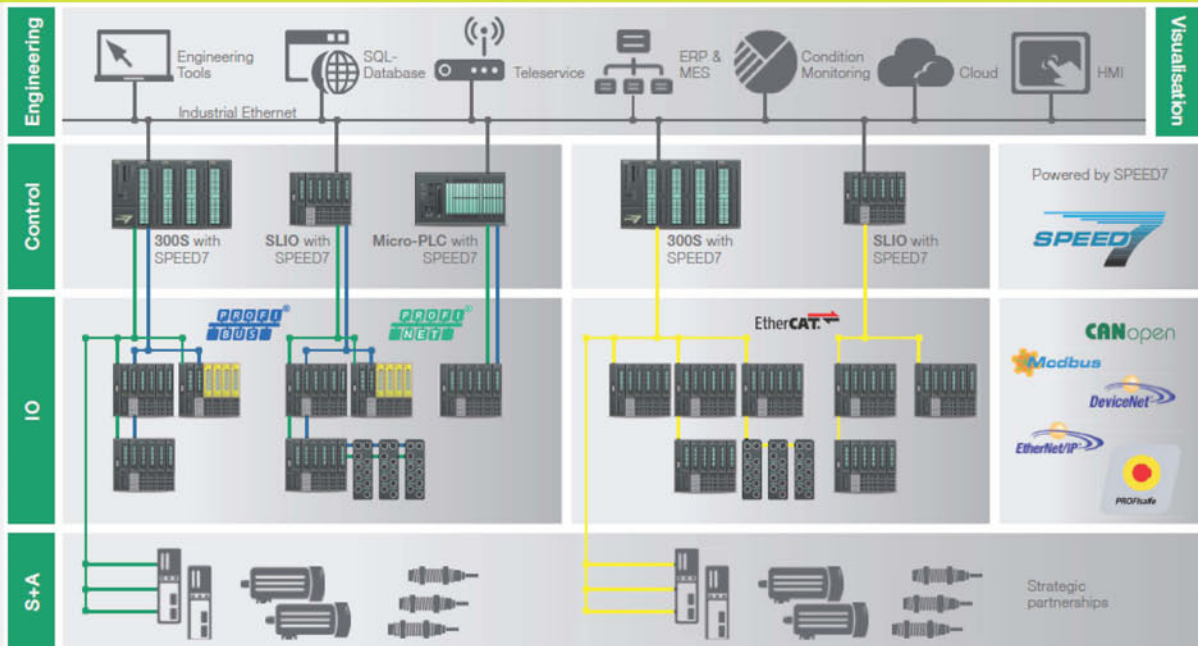
VIPA Conversion from S5® to S7®



Integration of S5® applications into S7® - intelligent and easy!



VIPA PLC can be programmed by Speed7 Studio, STEP 7 and TIA-Portal





2012 PARTNER OF THE YEAR
Sustainability
Winner



AlarmWorX32	ScriptWorX32
AlarmWorX32 MMX	Security Server
DataWorX32	ScheduleWorX32
GraphWorX32	TrendWorX32
ProjectWorX32	VCRWorX32



GraphWorX64	AssetWorX
AlarmWorX64	GridWorX
TrendWorX64	Workbench
EarthWorX	FDDWorX



Windows 8

Microsoft Partner
Gold Independent Software Vendor (ISV)



Microsoft

ICONICS' advanced visualization, productivity and sustainability solutions, built on its flagship GENESIS64 HMI/SCADA and AnalytiX® products, help increase production, reduce energy costs, curtail carbon-based greenhouses gases. ICONICS products are base on open industry standard such as OPC, OPC UA, BACnet, Web Services and many others. ICONICS makes extensive use of the latest Microsoft technology such as .Net, HTML5, Silverlight, Active Directory, Windows Server, Window 8, SharePoint 2010, SQL Server 2012, Internet Explorer 10, Windows Phone 7, Bing Maps, IIS and Office 2010.

With more than 250,000 installations worldwide, ICONICS' extensive software solutions are used in a wide variety of applications across many industries. In order to meet the high demands of many large and complex applications, ICONICS provides consulting services and extensive training to support its customers, including end users, Systems Integrators, OEMs and channel partners

GraphWorX64™

Design Vector-based Graphics in 2D and 3D Representing the Real World



AlarmWorX64™

Organize Alarms areas in different tabs (and visualize them in a 3D world)

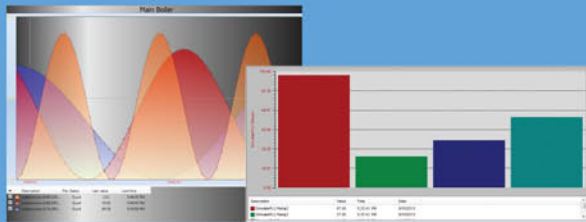


AlarmWorX™64
-Wide alarm management and deliver real-time alarm throughout the system.



TrendWorX64™

TrendWorX™64
-Data collection, logging, charting, reporting and analysis solution in real-time and historical data from any relational database.



Facility AnalytiX™

Predictive Software for Facilities Management



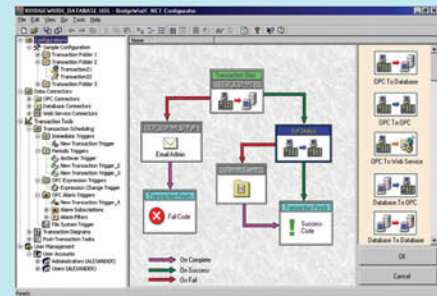
Energy AnalytiX™

Advanced Energy Management Software



BridgeWorX™

Real-time Workflow for Data Bridging

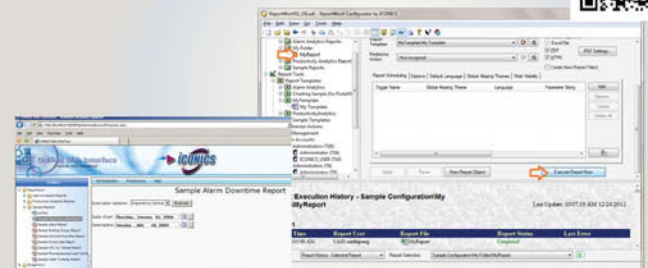


Productivity Analytics

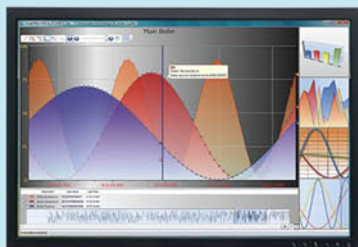


ReportWorX™

Enterprise Reporting, Charting and Analysis Software



Hyper Historian™

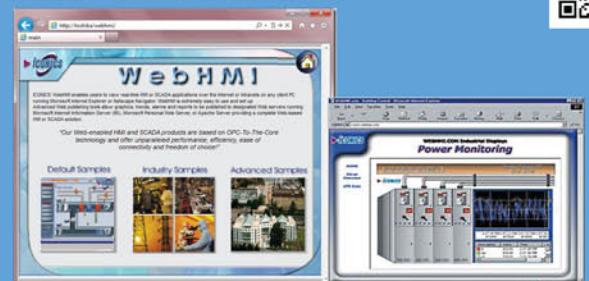


MobileHMI™



WebHMI™

Web-Based Real-Time Automation Software





HMI Screen Editor &
Logic Programming Software

GP-Pro EX Runtime Engine "WinGP"

FP3000 Series DVI I/F Supported Flat Panel Monitors

FP-3710K
Model: FP3710-K41-U (AC)

FP-3900T
Model: FP3900-T41-U (AC) / FP3900-T41 (AC)



FP-3500T
Model: FP3500-T11 (AC) / FP3500-T41-24V (DC)

FP-3650T / FP3600T
Model: FP3650-T41 (AC) / FP3600-T11 (AC) / FP3600-T41-24V (DC)

FP-3710T
Model: FP3710-T42-U (AC) / FP3710-T42 (AC)

- DVI-D
- Analog RGB
- Display Colors
- USB I/F
- Backlight Replacement
- Front Panel

Industrial Personal Computer

PS4000 Series

A rugged, high-performance Industrial Personal Computer



Aluminum Bezel
Core 2 Duo 115W, Atom 95W

PS-4800
Standard Interface
-COM x 2
-LAN x 2
-CF x 1
-DV-I x 1
-USB x 5



Aluminum Bezel **Stainless Steel Bezel**
Core 2 Duo 100W, Atom 70W

PS-4700
Standard Interface
-COM x 2
-LAN x 2
-CF x 1
-DV-I x 1
-USB x 5 (4)



Core 2 Duo 90W, Atom 60W

PS-4800B
Standard Interface
-COM x 2
-LAN x 2
-CF x 1
-DV-I x 1
-USB x 5



Aluminum Bezel **Stainless Steel Bezel**
Atom 31W

PS-4700 (EMBEDDED ONLY)
Standard Interface
-COM x 1
-LAN x 1
-CF x 1
-USB x 3 (2)



Large-size heat sink and intelligent fan control



For unstable power supply and high frequency of power failures

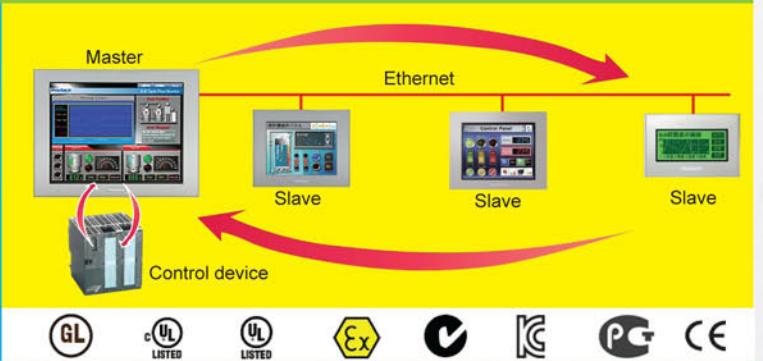
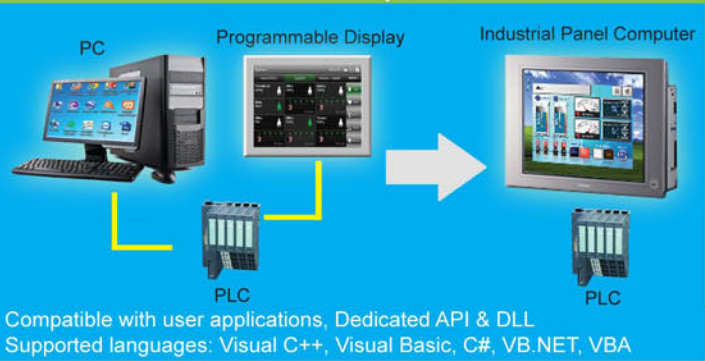


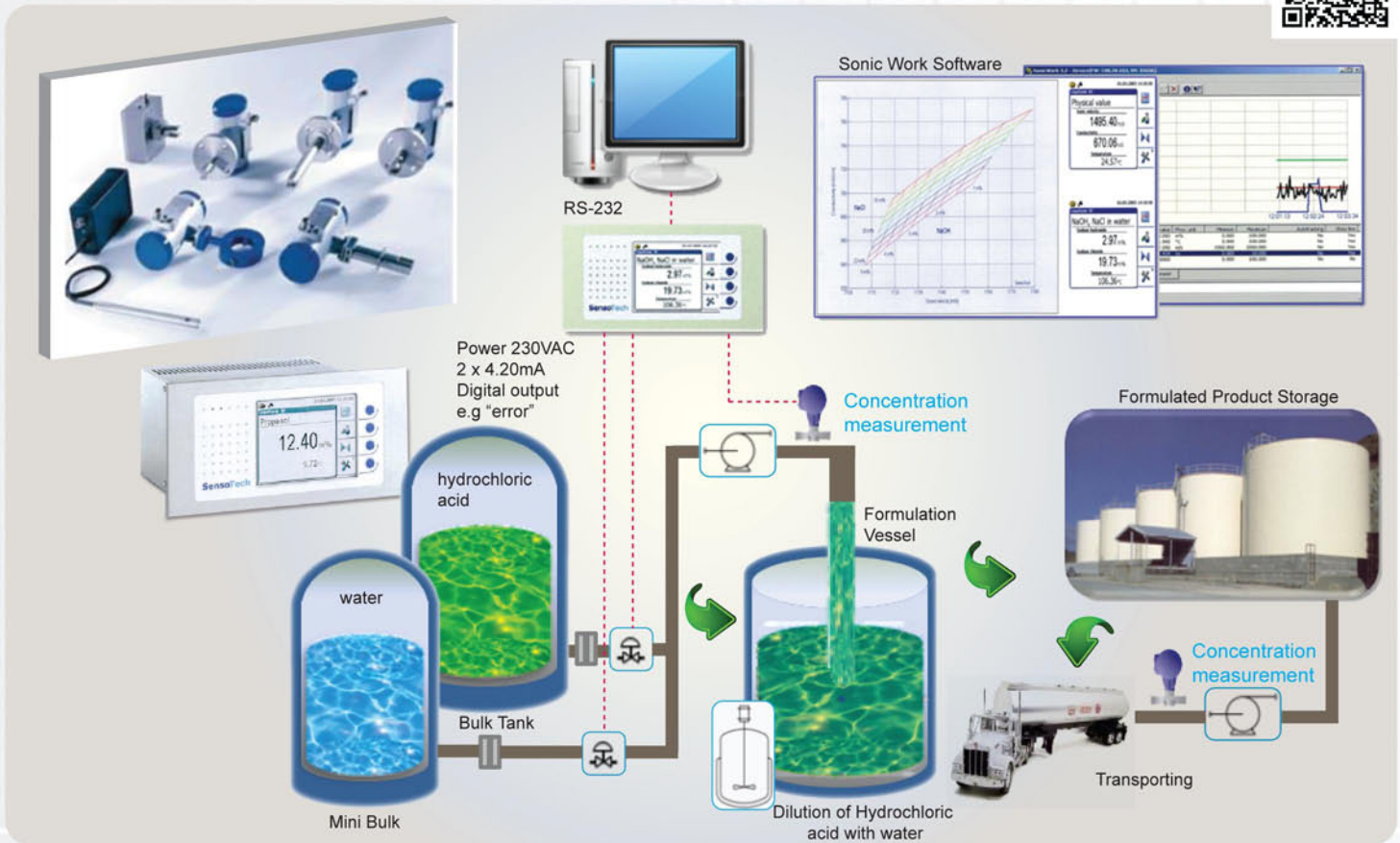
Excellent Partnership with Microsoft



Sliding expansion Slot (Slide-in Slot)
HDD/SSD Slot (Slide-in Disk)
Easily Replaceable HDD Drive

WinGP - HMI screen data operable on a Windows PC





Application By Industries

Chemical

Concentration and density measurement of acids, solvents and organic liquids
Phase detection in pipes and vessels
Monitoring of polymerization and crystallization processes

Oil and Gas

Concentration measurement of oil (crude oil) in water
Phase detection of oil in water in pipes and vessels
Concentration measurement in gas scrubbers

Biotechnology

Supply reliable data about protein concentrations,
Monitor and control fermentation and ultra filtration units,
Continuously measure concentration during the filling of infusion and nutrient solutions.

Semiconductor

Measure process concentration in etching, coating, treatment and cleaning baths. Monitor the quality in photo resists,
Control the concentration blending of covering emulsions and suspensions.

Pharmaceutical

Supply reliable data about solvent concentrations,
Detect or monitor eluate concentrations in HPLC processes,
Control phase interface detection in vessels and pipes.

Steel and rolling mills

Concentration measurement in pickling baths
Concentration measurement of rolling and cutting oil emulsions
Acid regeneration electrolytic galvanizing
Roller chrome plating

Renewable energy

Concentration measurement in bio ethanol plants
Concentration measurement and phase interface detection in biodiesel and bio fuel plants
Dry solids measurement in biogas plants
Concentration measurement in gas washers in biogas plants

Food

Real-time monitoring inline brewing process
Wort concentration measurement (lauter tun, mash filter, wort boiler) in the brewing room,
Beer/water/beer interface detection after the filtration to reduce the consumption of filter aids,

Original gravity control of the bottling process according to HACCP,
Blending control in high-gravity brewing processes (HGB),

Control the whey evaporation in dairies,
Measure inline the brix concentration in soft drink production,
Measure inline the extract and alcohol concentration in wine production.



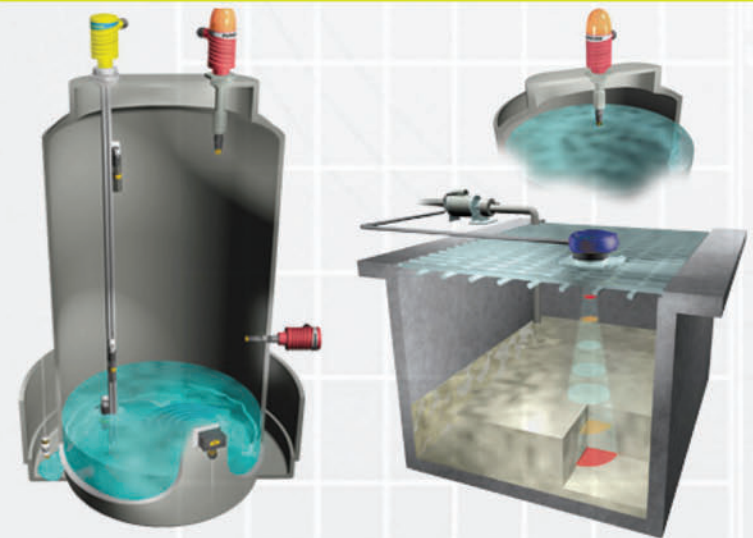
DSP

Technology

Digital Infinity provides unparalleled sensor performance and application benefits through advance digital



	XP88-89 Ex	32.8' (10m) 4...20mA ->	CHEMICAL RESISTANT		LU10 Ultrasonic Intrinsically Safe	(1) SPST	CHEMICAL RESISTANT	
	LU20 I.S.	18' (5.4m) 4...20mA ->	CHEMICAL RESISTANT		LZ12 Vibration	(1) SPST		
	LU30	24.5' (7.4m) 4...20mA -> (1) SPDT	CHEMICAL RESISTANT		LV10 Buoyancy	(1) SPDT		
	LU80-84	32.8' (10m) 4...20mA ->	CHEMICAL RESISTANT		LO10 Optic	(1) SPST		
	WEBCAL LU23-29	32.8' (10m) 4...20mA ->	CHEMICAL RESISTANT		LP15 Capacitance	(1) SPST		
	WEBCAL LU23-29	32.8' (10m) 4...20mA ->	CHEMICAL RESISTANT		LP50 Capacitance	(1) SPST		
	WEBCAL DL34	18.0' (5.5m) 4...20mA -> (4) SPST	CHEMICAL RESISTANT		AVX6 Float	(1-5) SPST	200 PSI (13.8 bar) SS316	
	WEBCAL DL24	9.8' (3m) 4...20mA -> (4) SPST	CHEMICAL RESISTANT		AXXX Smart Track	(1-4) SPST	Atmospheric Pressure PP, Ryton™	
	WEBCAL DL14	49.2' (1.25m) 4...20mA ->	CHEMICAL RESISTANT		AX23 Smart Track	(1) SPDT	Atmospheric Pressure PP, Ryton™	
	WEBCAL DL10	49.2' (1.25m) 4...20mA ->	CHEMICAL RESISTANT		AX13 Switch Pak	10' (3m) (1) SPDT	150 PSI (10 bar) PP, PFA, Ryton™	
	WEBCAL DX10	49.2' (1.25m) 0-10V 978-2000Hz	CHEMICAL RESISTANT		AX13 Switch Pro	(1) SPDT	150 PSI (10 bar) PP, PFA, Ryton™	



Level Indicator

Offered in explosion proof, intrinsically safe and general purpose classification, the loop powered displays provide reliable liquid level indication.
















Level Controllers

The level controllers are offered in panel, compact and remote configurations to provide advance pump or valve control functions with 1-4 sensor inputs.

- Robust non-contact level measurement from 0.25mm-10m
- 0.2% accuracy with little or no degradation over the range
- Auto-adaptive signal output filtering smooths liquid agitation
- Narrow 2" beam width for installation near walls or obstacles
- Tight 2" dead band optimizes the filling capacity of small tanks



Pressure Transmitters

Type	Gallery	Type	Gallery	Description
	Pressure and Temperature Transmitters		Submersible & temp transmitters	
<ul style="list-style-type: none"> ATM.1ST/T ATM.1ST ATM.1ST/Ex 		<ul style="list-style-type: none"> ATM.1ST/N ATM.1ST/N/Ex 		 <ul style="list-style-type: none"> ■ Pressure measuring range: 100 mbar... 1000 bar Special Calibration Available Upon Request ■ Accuracy : 0.05%, 0.1%, 0.25% FS ■ Output : 0...5 / 0...10 VDC / 4...20mA ■ Interfaces : RS485 (Modbus RTU) ■ Temperature measuring range : -25°C...85°C ■ Operating temperature : -40°C...85°C ■ Process temperature : 40°C...150°C ■ Material : Stainless steel, Titanium (can be order in different materials.) Very short Response times <p>Application :-</p> <ul style="list-style-type: none"> - Machine and Plant Construction - Test Facility & Prototyping - Shipbuilding & Marine - Gas - Oil & Subsea - Food Industry - Mining - Aviation - Analysis & Medicine - Chemistry
<ul style="list-style-type: none"> ATM.ECO ATM.ECO/Ex 		<ul style="list-style-type: none"> ATM.ECO/N ATM.ECO/N/Ex 		
<ul style="list-style-type: none"> ATM ATM/Ex ATM/F ATM/F/Ex ATM/GR ATM/K ATM/T 		<ul style="list-style-type: none"> ATM/N ATM/N/Ex ATM/N/T ATM/N 19 ATM/K/N ATM/NC ATM/NC/Ex 		
DTM		DTM/N		
<ul style="list-style-type: none"> PTM PTM/Ex PTM/RS485 		<ul style="list-style-type: none"> PTM/N PTM/N/Ex PTM/N/RS485 PTM/N/SDI-12 		
<ul style="list-style-type: none"> TM TM/Ex 		MTM/N 10		
TS 100		<ul style="list-style-type: none"> TM/N TM/N/Ex 		

Data Loggers / Communication

Type	Gallery	Type	Gallery	Description
<ul style="list-style-type: none"> DL DL.OCS/N/RS485 DL/N DL/Ex 		<ul style="list-style-type: none"> DL/N/Ex DL/N 70 GSM Head-Mounted Display 		<p>All dataloggers are battery powered & controlled by user friendly software & measure different parameters such as level/pressure, temperature & conductivity. The industrial dataloggers are also available with an intrinsically safety certificate (Ex) & can easily be installed into pipes or tanks. By use of our communication module, the data can be transferred remotely.</p>



Test Facility & Prototyping



Machine and Plant Construction



The Administration of Ground and Surface Water



Water Treatment



Desalination



Shipbuilding & Marine



Food Industry



Oil & Subsea



test and measurement software
SENSIT

USB Software

With the introduction of our USB Technology, FUTEK has also designed the software to capture all of your test and measurement data. SENSIT Test and Measurement Software displays the Peak/Valley, Tare/Gross and allows full data logging and live graphing capabilities.



USB Solution for All Industries

FUTEK is among the first in the test and measurement industry to embark upon utilizing USB Technology to simplify data retrieval and collection. With the introduction of a universal "plug and play" solution, measurement platforms are set up to gather more precise and effective results in a variety of applications.

Quick . Smart . Cost Effective
Load Capacity: 0.352702 oz (9.999g) -
1,000,000 lb (4,448,000 N)



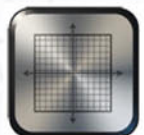
Simple Display



Data Logging



Math f(x)



Live Graphing Mode



16 Channels



Right Click,
Easy Menu



Global Settings



Compatible with
LabVIEW



Canister USB Load Cells
(LCA Series) Compression



Rod End USB Load Cell
(LCB Series) Tension/Compression



Pancake USB Load Cell
(LCF Series) Compression



In-Line USB Load Cells
(LCM Series) Tension/Compression



Load Button USB Load Cells
(LLB Series) Compression



S-Beam USB Load Cells
(LSB Series) Tension/Compression



Square Drive to Flange Torque Sensors
(TDF Series) Reaction Type



Shaft to Shaft Rotary Torque
Sensor (TRS Series)



IPM650 Pro , Intelligent Panel Meter ,
mV/V , VDC , Current Measurement ,
Analog Output , Alarm Relays ,
TEDS and USB Output



CSG110 , Strain Gage Amplifier ,
Standard , Enclosed With Din
Rail Mount , With DB9 Connectors ,
ABS-94HB Black Enclosure ,
Analog Output , +/-5 VDC , +/-10 VDC ,
0-20 mA , 4-20 mA , 0-16 mA ,
5-25 mA , 1 KHZ Bandwidth &
up to 25 KHZ



IHH500 Pro , Intelligent Digital Handheld
Display , mV/V , VDC , Current
Measurement , Analog Output ,
Alarm Relays , TEDS and USB Output ,
Only Power Supply Adapter is
Included With Pro & Elite
models available



IAC200 , Junction Box - 4 Channel ,
Nema 4 Rating , Material - Polyurethane ,
Analog Output , +/-5 VDC , +/-10 VDC ,
0-20 mA , 4-20 mA , 0-16 mA , 5-25 mA



Tension & Compression Load Cells

 Stainless Steel Low Compression Load Cell	 Stainless Steel Compression Load Cell	 Stainless Steel Low Profile Compression Load Cell	 Stainless Steel Low Profile Universal Pancake Load Cell	 Stainless Steel Low Profile Compression Load Cell	 Alloy Steel (S) Type Tension Compression Load Cell	 Stainless Steel (S) Type Tension Compression Load Cell	 Alloy Steel (S) Type Tension Compression Load Cell
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Tension Load Cells

 Wireless Radio Telemetry Link Load Cell	 Bow Type Crosby Cabled Shackles Load Cell	 "D" Type Crosby Cabled Shackles Load Cell	 Self Indicating / Built In Display Link Load Cell
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Tension & Compression Load Cells

 Stainless Steel Stud Type Tension / Compression Load Cell	 Aluminium Alloy Low Range Tension / Compression Load Cell	 Stainless Steel Tension / Compression Load Cell	 Low Range Isometric Force Sensor
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Beam Load

 Stainless Steel Beam Load Cell	 Stainless Steel Low Range Cantilever Beam Load Cell	 Alloy Steel Shear Beam Load Cell	 Double Shear Beam Silo Weighing Load Cell Assembly
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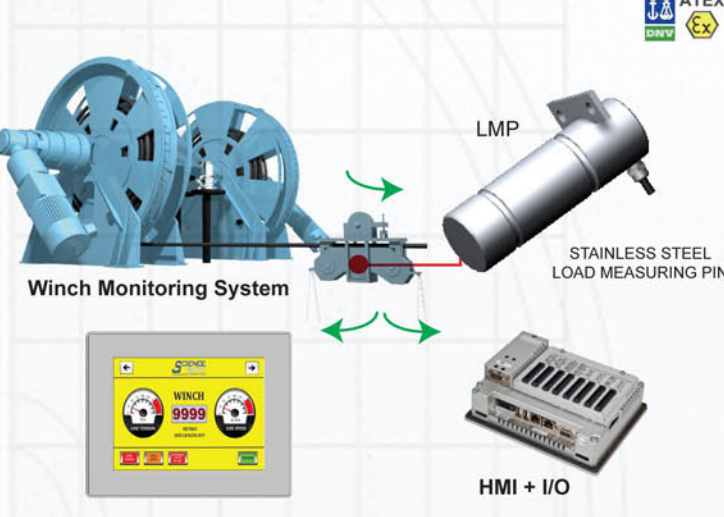
Instrumentation

 Strain Gauge / Load Cell Input Digital Indicator / Controller	 Bulkhead Display for use with Mantrabus DSC/DCELL	 Wall Mounting Weighing Indicator / Controller	 Wireless Telemetry Simple Handheld Display
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Accessories

 SGA Analogue Strain Gauge Amplifier	 4 Channel DSC Docking Station	 Active Load Cell Summation Junction Box	 "In-Cell" Analogue Strain Gauge Amplifier
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LCM Systems manufacture a wide range of standard and custom design load cell products.



Winch Monitoring System

STAINLESS STEEL LOAD MEASURING PIN (LMP)

HMI + I/O

Strain Gauge Module for Silo Weighing & Batching.



Three-In-One Package HMI + PLC with Strain Gauge Input



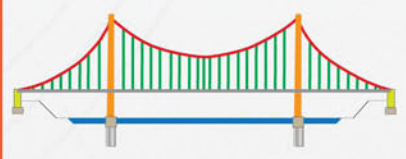
Container Crane



Wire Rope Hoist



Fork Lift load monitoring



Suspension Bridge Monitoring



Crane



Wireless Telemetry System



Marine Chain Stopper



MECHATRONICS	
	Rotary Type Switch ✓ ✓ ✓ ✓
	Swing Type Switch ✓ ✓ ✓ ✓
	Vibration Type Switch ✓ ✓ ✓ ✓
	Float Type Switch ✓ ✓ ✓ ✓
	Sounding Type Continuous Meter ✓ ✓ ✓ ✓
	Tilt Type Switch ✓ ✓ ✓ ✓
	Diaphragm Type Switch ✓ ✓ ✓ ✓

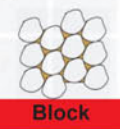
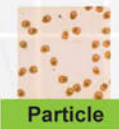
ELECTRONICS	
	Capacitance Type Switch & Continuous Meter ✓ ✓ ✓ ✓
	Ultrasonic Type Continuous Meter ✓ ✓ ✓ ✓
	Microwave Type Switch ✓ ✓ ✓ ✓
	Microwave Type Flow ✓ ✓ ✓ ✓
	Radar Type Continuous Meter ✓ ✓ ✓ ✓
	Laser Type Switch & Continuous Meter ✓ ✓ ✓ ✓
	Electrode Type Switch ✓ ✓ ✓ ✓

**KCD Multi-point Capacitance Type Level Switch
WE HAVE INVENTED THE 5-POINT
OUTPUT WITH AN ELECTRODE!**



FEATURES

- You can easily set 5 points via digital display by way of zero spam adjustment only.
- As opposed to a level switch whose contact position is fixed, you can arbitrarily change the alarm position if it is within the measuring range of the electrode.
- Alarm operative direction (On when a liquid level rises, or ON when level comes down) can be change by selecting the proper terminal on the amplifier PCB.
- Even the tank material is other than metal, it can fully operate with an auxiliary electrode installed or with an earth of a metal tape provided outside of the tank.



Model BLX (Level Switch Capacitance Type)

Introduction

BLX detects an existence or no existence of object in a vessel like silos or tanks, depending on capacitance principle. The composition of the sensor probe is quite simple and rigid, which is made by stainless steel and some insulators. Amplifier parts are surface-mounted on a PCB to increase strength to vibration. Sensitivity is, as same as the advance model ALN, high enough to detect the insulating powder, grain and even foam. BLX is the integrated reliable level switch with thorough functionality.



- Sophisticated, Rigid And Reliable
- For Solids, Liquids And Interface
- From Insulating Powder To Conductive Fluid
- No Influence by contamination on probe

Surface Interface

Liquid

Granules

Powder

FEATURES

No moving part are contained

BLX works correctly based on the capacitance principle which does not require mechanical moving parts. This instrument thus assures the user very long life-expectancy.

Not affected by contamination of the probe

The electric circuit contains a sensitivity self-compensation function to automatically eliminate the influence caused by contamination. The instrument readjusts sensitivity by itself, depending on contamination.

High and stable sensitivity

The high sensitivity can stably detect even plastic powder or oil which has very low dielectric constant, ignoring the influence by contamination.

Foam can be detected (Optional)

Foam, like beer or soap foam, can be detected by the optional foam detection circuitry...

Improves strength to vibration

The surface-mounted PCB can stand for vibration better than ever.

Rigid probe stands for high pressure

The probe is well designed to stand for high pressure of 1MPa as standard.



Data Track
Process Instruments Ltd

UNIVERSAL DIGITAL PANEL METER



Economical Indicator

Tracker 211
Universal Input
0.05% Accuracy
4 Digit Display

Economical - 5 Digit

Tracker 212
24-Point User
Linearization
0.05% Accuracy
5 digit Display

High Accuracy

Tracker 220
Universal Input
0.02% Accuracy
Modbus
Communications

Load Cell Meter

Tracker 240
4 or 6 Wire
Strain Gauge
"Smart" Noise Filter
5 Digit Display



Tracker 300+

Universal DIN Rail Process Control Module
For Signal Conditioning, Data Acquisition,
PID Control and Alarms

COPAL ELECTRONICS

-All for dreams

**Handy manometer
PG-100N**



Non-corrosive gases
Gauge (Compound)
LCD 3 1/2
-10 to 10 kPa
-100 to 100 kPa
-100 to 1000 kPa

**Handy manometer
PG-100B**



Gases / liquids
Gauge / Absolute
LCD 3 1/2
-100 to 100 kPa
-100 to 1000 kPa
0 to 100 kPa abs

**Pressure gauge
PG-75**



Corrosive gases / liquids
Gauge / Compound
LED 3 1/2-digit
[0 to 100KPa], [-100 to 100KPa]
[0 to 1MPa], [-0.1 to 1MPa]
[0 to 3.5MPa], [-0.1 to 3.5MPa]

**Liquid leak sensor
WL10**



Pressure Medium : Water (PP) /
Corrosive fluids compatible with PFA
Power : 12 to 24 V DC
Leakage detection : Switch output is OFF

**Pressure transducer
with amp. PA-838-D**



Pressure medium : Corrosive gases/liquids
compatible with SUS304.
Pressure reference : Differential
Pressure range : 10, 50, 100 kPa
Power : 24V DC
Output : 4 to 20mA
IP-65

**TECFLOW
INTERNATIONAL**



Operating Principle :

IR based
6 flow ranges (0~120lpm)
Resistant to most aggressive
chemical with PVDF
wetted parts.
Flexible connections of NPT
& BSP
Hose connection
Accuracy + 1% or + 3%
Repeatability + 1%



Chemical Resistant



High Accuracy



Rotary Turbine



Flow Control

IR-OPFLOW PRECISION FLOWMETER

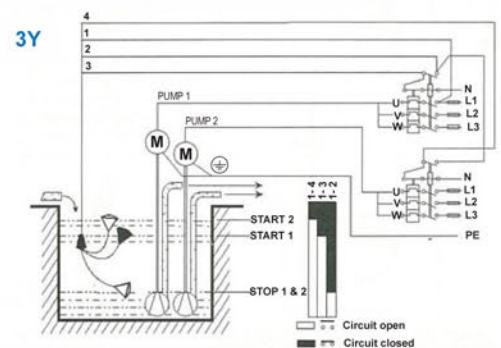
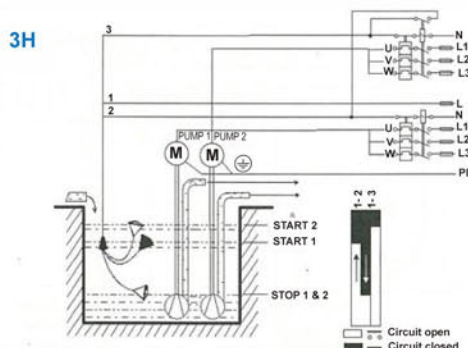


***ROBUST *RELIABLE * NO MERCURY * NO LEAD**

EXAMPLES: CONTROL OF TWO PUMPS BY USING TYPE 3H OR 3Y



FLOAT SWITCH



AC, Servo and DC drives
that save energy, increase
productivity and reduce operating costs



UNIDRIVE M - AC and Servo Drive Family for Manufacturing Automation
0.25 kW - 1.2 MW Heavy Duty
100 V | 200 V | 400 V | 575 V | 690 V

<p>M100</p> <p>Value drive with quality and performance for open loop applications</p>	<p>M200</p> <p>Flexible machine integration through communications (Direct upgrade for Commander SK)</p>	<p>M300</p> <p>Enhance throughput with Machine Safety</p>	<p>M400</p> <p>Fast set-up and diagnosis with real-text display, plus integrated CODESYS based PLC (Direct upgrade for Commander SK with LogicStick and extended power range)</p>	<p>M600</p> <p>High performance drive for induction and sensorless permanent magnet motors</p>	<p>M700</p> <p>Class leading induction and permanent magnet servo motor performance, with real-time Ethernet (Direct upgrade for Unidrive SP)</p>	<p>M800</p> <p>Ultimate performance through advanced onboard motion control</p>
Up to 7.5 kW (10 hp)	Up to 22 kW (30 hp)	Up to 110 kW (150 hp)	Up to 1.2 MW (1600 hp)			

Functionality, Performance & Flexibility



Open loop vector or V/Hz induction motor control	Enhanced open loop Rotor Flux Control for induction motors (RFC-A)	Open loop permanent magnet motor control (RFC-S)	Active Front End (AFE) power quality converter	Closed loop Rotor Flux Control for induction motors (RFC-A) (M600 requires SI-Encoder option)	Closed loop permanent magnet/servo motor control (RFC-S)
--	--	--	--	---	--



Mentor MP High performance DC drive
25A to 7400A
400V / 575V / 690V
Two or four quadrant operation



- Our expertise in the industry
- Crane, hoist & Elevator
 - Test rigs & dynamometers
 - Magnetic grabs
 - Tire & rubber
 - Metals
 - Wire drawing
 - Paper
 - Marine
 - Winders
 - Extruders
 - Glass
 - Materials handling
 - Fair ground
 - Spindle drives
 - Crushers
 - Active front end for DC Bus connected AC Drive systems

Drive Programming and Operator Interface

- Operator Interface
- MP-Keypad LCD with MP firmware
- SM-Keypad LED standard
- Smartcard

Applications with PLC or Motion functionality

<p>On Board PLC</p> <p>Easy to use onboard ladder logic PLC at zero cost, ideal for simple applications requiring extra drive functionality. Configured using SyPTLite.</p>	<p>SM-Applications Lite V2</p> <p>Powerful automation controller using a dedicated microprocessor giving full drive parameter access. Configured using SyPTLite or SyPTPro software.</p>	<p>SM-Applications Plus</p> <p>Powerful automation controller with drive to drive networking and full motion capability. Configured using SyPTPro software.</p>	<p>SM-Register</p> <p>High speed motion and registration control. Configured using SyPTPro software.</p>
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Field Control

- Mentor MP in field mode greater than 25A
- FXMP25 Field Control up to 25A
- Integrated Field Control Size 1: 8A, Size 2A and 2B: 10A, Size 2C and 2D: 20A

Feedback

- SM-Universal Encoder Plus
- SM-Encoder Plus
- SM-Encoder Output Plus
- Estimated speed Tacho Encoder
- Incremental Encoder input
- Incremental Encoder input/buffered output

Input / Output

- Standard: 7 Digital I/O, 5 Analog I/O, 2 Form C relays
- Options: SM-I/O 32, SM-I/O Plus, SM-I/O Lite, SM-I/O Timer, SM-I/O 120V, SM-PELV, REMOTE I/O

Communications

- Modbus RTU
- SM-CANopen
- SM-Profibus DP
- SM-EtherCAT
- SM-Ethernet
- SM-DeviceNet
- SM-Interbus



Two years local warranty,
worldwide sales & service



Do you ever wish to monitor the status of your boat remotely? Connect to your boat from anywhere at anytime. Monitor surveillance cameras, check engine status, control lights and check instruments from your computer or mobile device.



New eTOP Series 500
Solid as a rock

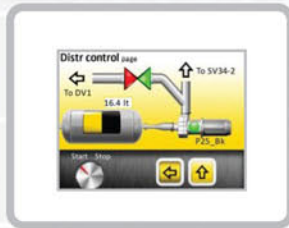


Monitor your building 24/7 from anywhere. JMobile allows you to stay connected with your alarm systems, heating and cooling systems, IT infrastructure and other automation systems.



eTOP504

- 4.3" TFT wide color display
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- USB Host port
- SD Card slot



eTOP506

- 5.7" TFT color display
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



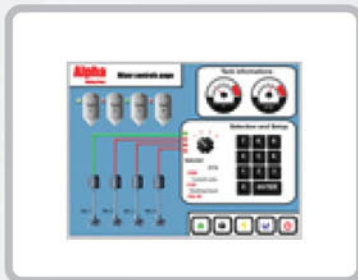
eTOP507

- 7" TFT wide color display
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



eTOP510

- 10"4 SVGA TFT color display
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



eTOP512

- 12"1 SVGA TFT color display,
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



eTOP513

- 13"3 WXGA TFT wide color display,
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



eTOP515

- 15" XGA TFT color display,
- LED backlight
- 64K colors
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot



Energy Optimising Products



Designation
3-phase SCR Energy Saving
Motor Controller

Current
Size 1 up to 100A
Size 2 up to 200A
Size 3 up to 500A

Input/Outputs : 4 x Relays, 4 x DI
1 x AI(0-10V/4-20mA)
1 x AO(0-10V/4-20mA)

synergy™



Current
5 – 41 Amp (2.2 – 22kW @400V)
Operational Voltage
230 – 460 VAC (-15% +10%)
Rated Frequency
50 – 60 Hz +/- 2Hz
Start Time
1 to 30 Seconds
Stop Time
0 to 30 Seconds
Starts per Hour
10
Up to 60 with Optional Fan
IP Rating
IP20
Ambient Temperature
0°C to 40°C without de-rating

PFE

90kW Motor Running at 100% Load

Heat generated in windings.	4.2kW
Losses in Iron core.	3kW
Losses due to friction & turbulence	1.8kW

99kW Supply → FE Optimising Motor Controller → Motor → Load → 90kW Output

91% EFFICIENT

90kW Motor Running at 20% Load

Heat generated in windings.	4.2kW
Losses in Iron core.	3kW
Losses due to friction & turbulence	1.8kW

23kW Supply → Motor → Load → 18kW Output

78% EFFICIENT

90kW Motor Running at 20% Load with energy saving motor controller

Heat generated in windings.	4.2kW
Losses in Iron core.	3kW
Losses due to friction & turbulence	1.8kW

21.3kW Supply → FE Optimising Motor Controller → Motor → Load → 18kW Output

85% EFFICIENT

SAVING 1.7kW

%TIME PART LOAD	ANNUAL HOURS AT PART LOAD	KWH SAVING	ANNUAL SAVING
40%	3,494	6,289	£818
60%	5,241	9,434	£1,226
80%	6,988	12,578	£1,635

The annual savings amount that could be achieved for a 1.8 kW per hour reduction is shown in this table.



Current
22 – 500 Amp
(11 – 280kW @400V)
Operational Voltage
230 – 460 VAC rms
(-15% +10%)
Control Supply
24VDC.
- DFE 02 – DFE 16
requires Approx 4VA
- DFE 22 – DFE 32
requires Approx 12VA
- DFE 34 – DFE 38
requires 3 Amps for 1 Second
Rated Frequency
50 – 60 Hz +/- 2Hz
Start Time
0.5 to 30
Stop Time
0 to 30 Seconds

DFE



Current
Up to 30A
Operational Voltage
110 – 230 VAC Single Phase
(-15% +10%)
Rated Frequency
50-60 Hz +/- 2Hz
Ingress Protection
IP30 with standard cover
Start Time
Approx 0.5 to 5 Seconds
continuously variable
Pedestal Voltage
Fixed at approx 15%

HFE

Innovation in motor control

Over 30 years ago Fairford Electronics pioneered the world's first digital soft starter. This technology and subsequent industry is now recognised as one of the most important advances in motor control technology and Fairford Electronics Ltd as the innovators.

Application	Trip Class	In Line				In Delta				Trip Class 10	Trip Class 20	Trip Class 30
		IEC	IEC	UL,FLA	UL	IEC	IEC	UL,FLA	UL	AC-53a	AC-53a	AC-53a
Default	10											
Heavy	20											
Agitator	10											
Air compressor – equalized	10											
Air compressor – loaded	10											
Ball mill	20											
Centrifuge – extended start needed for sizing	10	17	7.5	17	10	29	15	27	20	SGY-101	SGY-103	SGY-105
Chillers	10	22	11	21	15	35	18.5	34	25	SGY-103	SGY-105	SGY-107
Conveyor – unloaded	10	29	15	27	20	41	22	40	30	SGY-105	SGY-109	SGY-111
Conveyor – loaded	10	35	18.5	34	25	55	30	52	40	SGY-107	SGY-111	SGY-111
Crusher	30											
Escalator	10											
Fan low inertia <85A	10	41	22	40	30	66	37	65	50	SGY-109	SGY-111	SGY-113
Fan low inertia >85A	30	55	30	52	40	80	45	77	60	SGY-111	SGY-115	SGY-117
Feeder – screw	10											
Grinder	20	66	37	65	50	100	55	96	75	SGY-113	SGY-115	SGY-117
Hammer mill	20	80	45	77	60	132	75	124	100	SGY-115	SGY-117	SGY-201
Lathe machines	10	100	55	96	75	160	90	156	125	SGY-117	SGY-201	SGY-203
Mills – flour Etc	20											
Mixer – Unloaded	10											
Mixer – Loaded	20											
Moulding machine	10	132	75	124	100	195	110	180	150	SGY-201	SGY-201	SGY-301
Pelletisers	20	160	90	156	125	230	132	242	200	SGY-203	SGY-205	SGY-301
Plastic and textile machines	10	195	110	180	150	280	160	302	250	SGY-205	SGY-301	SGY-303
Press, flywheel	20											
Pump – centrifugal	10											
Pump – positive displacement unloaded	10											
Rolling mill	20	230	132	242	200	350	200	361	300	SGY-301	SGY-303	SGY-401
Roots Blower	20	280	160	302	250	481	280	477	400	SGY-303	SGY-401	SGY-403
Saw – band	10	350	200	361	300	610	355	590	500	SGY-304	SGY-403	Call
Saw – circular	20											
Screen – vibrating	20											
Shredders	30											
Transformers, voltage regulators	10	430	250	414	350	690	400	650	540	SGY-401	Call	Call
Tumblers	10											
Wood chipper	30	481	280	477	400	690	400	650	540	SGY-403	Call	Call

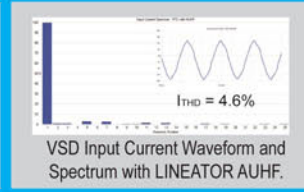
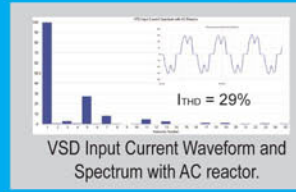
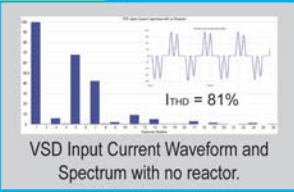


- Frees up system capacity by restoring VSD to near unity power factor
- The most energy efficient harmonic solution for VSD's
- Low capacitive reactance ensures generator compatibility
- Meets harmonic limits for both land and marine VSD applications



1300HP HVAC FAN VFD's with Lineator Harmonic Filter (iFLY SINGAPORE)

Improves VSD Performance



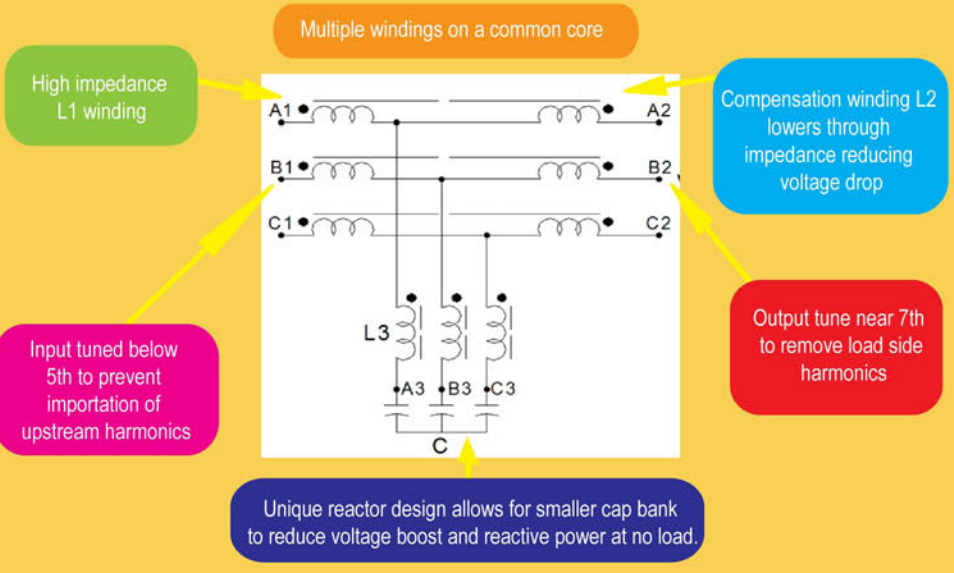
150HP Oil Well Pump VFD's with Lineator Harmonic Filters (Venezuela)

- Oil and Gas industry
- Water and Waste Water
- Irrigation systems
- HVAC systems
- Mining operations
- Marine vessels
- Printing presses
- Elevators and escalators
- Pulp and paper processing

Apply LINEATOR anywhere Variable Speed Drives and 6-Pulse Rectifiers are used

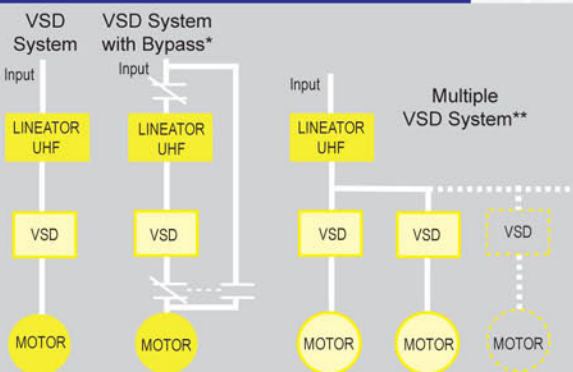
Other applications include:

- Induction furnaces
- Industrial rectifiers
- Welding operations



Performance Comparison on 60 HP PWM VSD LINEATOR™ vs Other Passive Treatments

	Input Current			Power Factor
	Waveform	Spectrum	THD	
6-Pulse Rectifier, PWM VSD			72.9%	.79 lag
With 3% AC Line reactor			35.6%	.90 lag
12-Pulse VSD			9.3%	.98 lag
With MIRUS LINEATOR™			5.8%	.99 lag



LINEATOR™ Application



PLC + HMI in One Unit

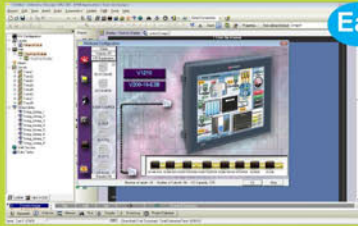
Built in Advantages

- Advanced Communication Options
- Datalogging and Recipes (Except Jazz Series)
- Auto-tune PID Control
- Variety of Onboard & Expandable I/O
- Free Remote Access
- Free Programming software

All-in-One Advantages

- Reduced Programming – a Single Programming Environment for Both PLC & HMI Applications
- Less Wiring, Less Space Required
- Save I/O Points and Reduces Hardware
- Panel-PLC communication is Built-in
- Display instruction to machine operators
- Data entry via the controller's panel
- Troubleshoot and view application data – no PC required

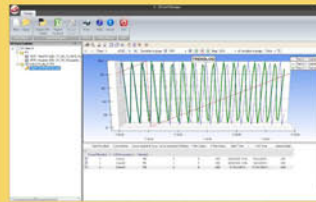
Easy Hardware Configuration



Select base PLC
Configure I/Os



SD Card Suite:



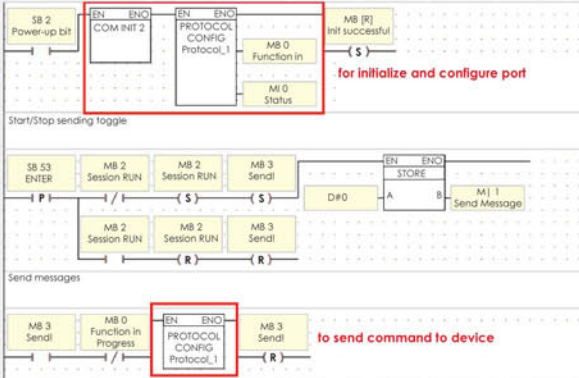
Manage data:
Trends, Alarms,
Data Tables
Remotely
record/write data
to SD Card

Communication Protocol function block enable your controller to exchange data with external devices, such as frequency converters, bar-code reader and printers via a Vision COM port or Ethernet, read/write.

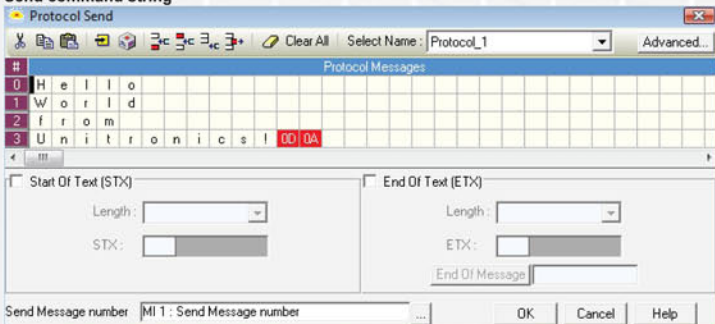
Communication Protocol Function Block



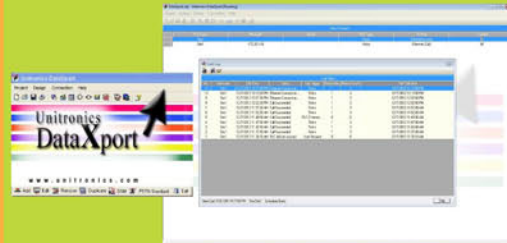
Initialization



Send command string



DataXport:



Log run-time/stored
Data Table data
Export data to Excel

Remote Access & Operator



Remote Access & Operator:
PC to PLC access/control via modem or network
Simultaneously view multiple operator panels

GSM SMS REMOTE CONTROL





Klicks

Basic

Go



ProfiSignal demo version



Download your free **demo version of ProfiSignal** and try out our software for testing and measurement technology.

DataService / Configurator

- Hardware configuration
- Data recording
- Alarms and interfaces

LogMessage



ExpertKey



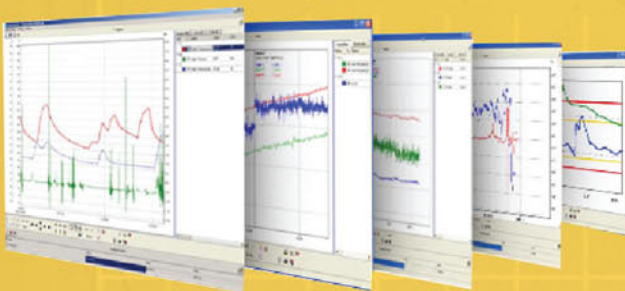
ProfiMessage



Pressure * Temperature * Rotations * Vibrations * Flow * Digital I/O * Meter reading

VIA USB / LAN

Online / Off-Line Data Logging



Function

Description

	Average	Min, max, moving, time-based, ...
	Calculation channel	Trigonometry, +, -, root, power, ...
	Markers	Variable
	Integrator	Integrator, edge counter, stop clock, ...
	Differentiator	Slope calculations
	Set point	Set point curves
	PID controller	P, PI, and PID controller
	Linearization	Linearization tables
	Strain gauge rosette	Calculation from δ and ϕ
	Limit value	Monitoring, wire breaks, watchdog, ...
	Logic	NOT, AND, OR, NOR, EXOR, ...
	FlipFlop	Type D, J-K, S-R
	Timer	Alarm, signal generator, PWM, ...
	Event	Email, text message via GSM/UMTS router
	X-Message	Direct connection between 2 devices
	ModBus (LAN)	Modbus TCP connection

LabVIEW™ Drivers	OPC Server	OCX Interfaces	DASYLab™ Drivers	Modbus TCP
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Plug and Play complete package For measurement technology.

Hardware has been developed specifically for PC-based data acquisition and automation

ProfiSignal Go: Software for measurement
Included in Expert Key and LogMessage

ProfiSignal Basic: Software for process visualization and monitoring

ProfiSignal Klicks: Software for process automation and measurement procedures

LogMessage

- Data logging
- Measuring energy efficiency
- Testing and product inspection
- Remote data transfer via GSM / UMTS
- Testing technology and test stand automation
- Servicing information and fault diagnostics
- GPS logging
- Stand alone high-speed applications

ProfiMessage

- Modular data acquisition and monitoring
- Fault data acquisition and damage diagnostics
- Acquisition, processing and recording of PLC and field bus signals
- Process data acquisition and preprocessing
- Remote monitoring device for machinery and plant
- Automation device for experiments and test stands
- Monitoring device for process and vibration signals

Expert Key

- Mobile and fixed systems for measurement data acquisition and process data
- Process visualization, analysis and automation
- Research and development
- Laboratory automation
- Testing technology and test stand automation
- Servicing information and fault diagnostics
- Testing and product inspection



Monitoring & process control



Vibration measurement



Data Acquisition & data logger



Test, trial & automation



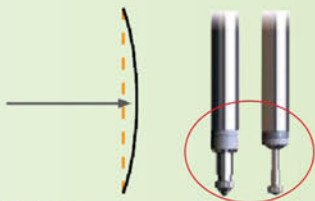
orbitACS

simply
Modbus



- Stand alone unit
- Full colour display provides analogue and digital reading
- Modbus communications or Solartron Serial outputs
- Discrete I/O
- High Accuracy
- Available with large number of Integral transducers
- +24 VDC power supply
- Din Rail mounting
- Mathematical Functions

Applications



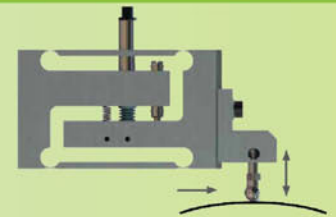
Low tip force
Tip force is critical when gauging fragile or flexible components.



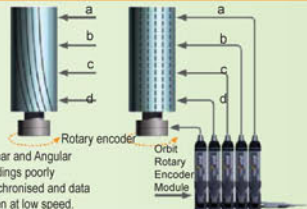
Measuring angles
The precision measurement of angles requires high resolution + excellent linearity and repeatability.



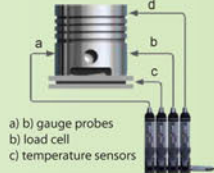
Automatic gauging systems
Automatic on line or post process is made possible with pneumatic probes and mechanical interfaces.



Mechanical interfaces
Flexures have the best overall performance for contact measurement of moving material. Linear forces through the flexure and no sliding components within the flexure help to ensure excellent performance and a very long life.



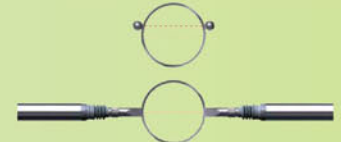
Synchronising data
Linear and Angular readings accurately synchronised using an Orbit Rotary Encoder Module and data from linear measuring sensors taken at high speed with the Orbit Network set in Dynamic Mode.



Orbit multiple sensor technology
Gauging components, such as automotive pistons and con rods, with temperature compensation and weight measurement within the same measuring station. Orbit can also accept strain and pressure sensor where required.



Inside diameter gauging
Dynamic Bore Gauging using Mini Probes with Orbit set in Dynamic Mode and resolution set 0.1µm.



Outside diameter gauging
2 probes configured A+B/2 is a common method used to measure diameters. If the centre line of the ball in a ball tip is not perfectly aligned to the centre line of the components, errors can occur. The type of tip chosen for a gauging application can have a significant effect on accuracy. A tip with a knife edge or pin is often a better solution in this of application.





Surface Profilers—To measure the surface shape, texture and contour in 2D and 3D.



Talysurf PGI Dimension



3D Optical Profiler



Form Talysurf PGI



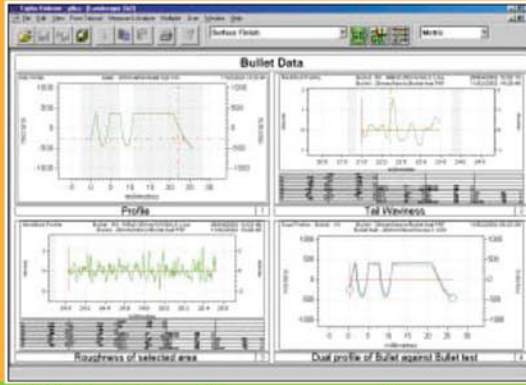
SHOP FLOOR INTRA



Surtronic 25



Surtronic DUO



Features:

- Roughness
- Waviness
- Form
- Contour
- 3D Aspheric analysis

Roundness & Form —Roundness Measurement and Cylindricity Measurement Instruments



TalyRound 440



TalyRound 450



TalyRound 565



Surtronic R100



Talyrond 130



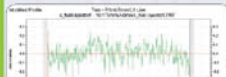
Talyrond 131

Features:

- Roundness
- Straightness
- Cylindricity
- Concentricity
- Eccentricity
- Flatness
- Squareness
- Parallelism
- Coaxiality
- Run out
- Total run out
- Harmonics analysis



TalyMaster—For Fully Automatic



Roughness

High resolution and low axis noise enables linear or circumferential surface roughness measurement.

Roundness

Frictionless air bearing spindle and precision column for roundness, cylindricity and straightness measurements.

Contour

Our patented calibration technique enables measurement of radius, angle, height, length, distance and more.

Alignment & Level



Autocollimators



TalyVel 5-Electronics Levels



Microptic Clinometer



Digital Clinometer



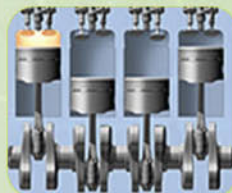
Micro Alignment Telescopes



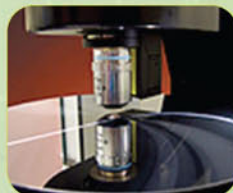
Micro Alignment Laser System



Optic Applications



Automotive Applications



Thin Film Analysis



Semiconductor Applications



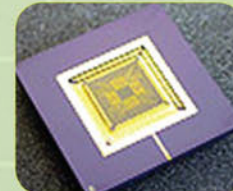
Aerospace



Hard Disk Media (disks)



Step Height



Medical Applications



Bearings Applications

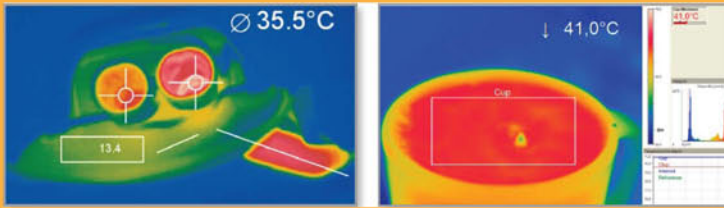


Hard Disk Heads (sliders)

Application and Industry



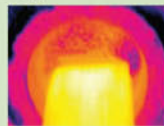
Compact high speed thermal imager
Thermal imagers with most compact design and USB 2.0 Interface for online measurements.



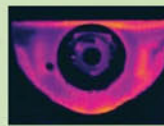
- Display of the thermal image
- real time image
- recording function (video, snap shot)
- Individual setup of alarm levels depending on the process
- Output of analogue temperature or alert values via the process interface
- Detailed analysis of fast thermodynamic processes



R&D electronic



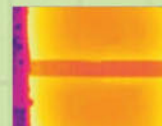
Process control extrusion



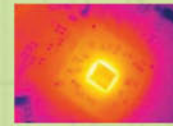
R&D mechanical components



Process control calendaring



Production of solar panels



R&D electronic devices



Product Line-Up :



Infrared sensors for non contact temperature measurement



Laser-Scanner for precise 2D/3D measurements



Sensors for displacement, distance and position



Color sensors for self-luminous objects and surfaces



Industrial endoscopes for error detection and quality assurance



Optical Micrometers to measure diameter, gap, edge or opacity



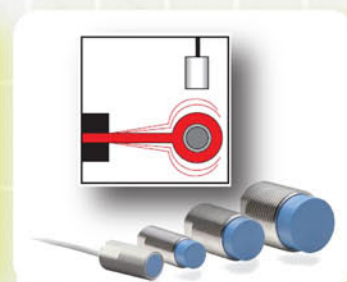
Capacitive sensors to measure distance and position



Laser distance sensors for extra long ranges



Confocal sensors for displacement and position



Eddy current sensors for displacement and position



Inductive sensors (LVDT)



Draw-wire displacement sensors



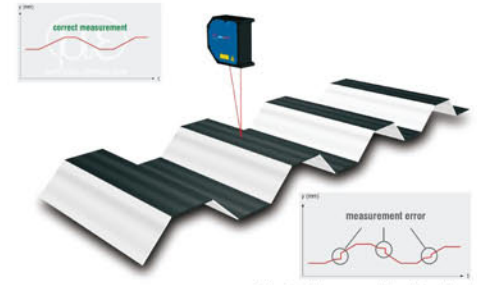
Sensor with laserline for metallic shiny surfaces

optoNCDT 2300LL



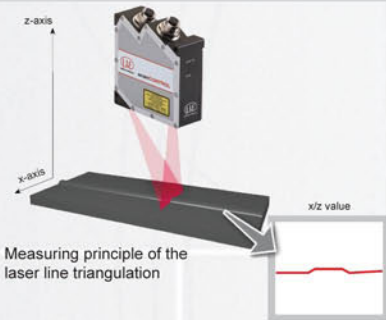
- Laser Line averages across shiny metallic or structured surfaces
- Four models with measuring ranges from 2mm to 50mm
- Compact design with integrated controller
- Adjustable measuring rate up to 49.02kHz
- INTERFACE**
Ethernet / EtherCAT / RS422
- ARTSC**
Advanced Real-Time-Surface-Compensation
- Certified**
Calibration certificate included
- Configuration via Web-Interface

optoNCDT 2300LL use a very small laser line instead of the common laser spots, it is designed for precise distance and displacement measurement on glossy, porous or rough surfaces. Due to the high measurement rate of up to 49kHz it is possible to reliably apply the sensor in fast processes.



Conventional laser sensors with time-shift control - noticeable errors in measurement during change of surface conditions.

scanCONTROL 2900 / 2950 / 2910



COMPACT	HIGH SPEED	SMART
scanCONTROL 2900-25	scanCONTROL 2950-25	scanCONTROL 2910-25
scanCONTROL 2900-50	scanCONTROL 2950-50	scanCONTROL 2910-50
scanCONTROL 2900-100	scanCONTROL 2950-100	scanCONTROL 2910-100

Scope of delivery:
Sensor, multi-function cable PC2600/2900-5, Demo-CD, SDK, sensor protocol, assembly instruction

Scope of delivery:
Sensor, multi-function cable PC2600/2900-5, CD Configuration Tools, sensor protocol, assembly instruction

- z-axis measuring range up to 265mm
- x-axis measuring range up to 143.5mm
- Profile frequency up to 4000Hz

- Measuring rate up to 2,560,000 points/sec
- z-axis reference resolution 2µm
- Resolution x-axis up to 1280 points

High resolution optical micrometer



- optoCONTROL 1200**
Compact, fast and space-saving 90° version; integrated controller
- optoCONTROL 1202**
Target-sensor gap up to 2000mm; integrated controller / resolution 8µm
- optoCONTROL 1220**
Target-sensor gap up to 2000mm; integrated controller / resolution 2µm
- optoCONTROL 2500**
High accuracy and stability / resolution 1µm; camera-light source gap up to 700mm (optional 1850mm)
- optoCONTROL 2600**
Maximum accuracy and stability
Target-sensor gap up to 300mm
Telecentric lenses / resolution 0.1µm

Measuring ranges

Measuring range up to 30mm

Measuring range up to 98mm

Measuring range up to 28mm

Measuring range up to 34mm

Measuring range up to 40mm

Measurement mode



capaNCDT

High resolution capacitive displacement sensors and systems



Active guard field for high precision measurement

Common capacitive sensors

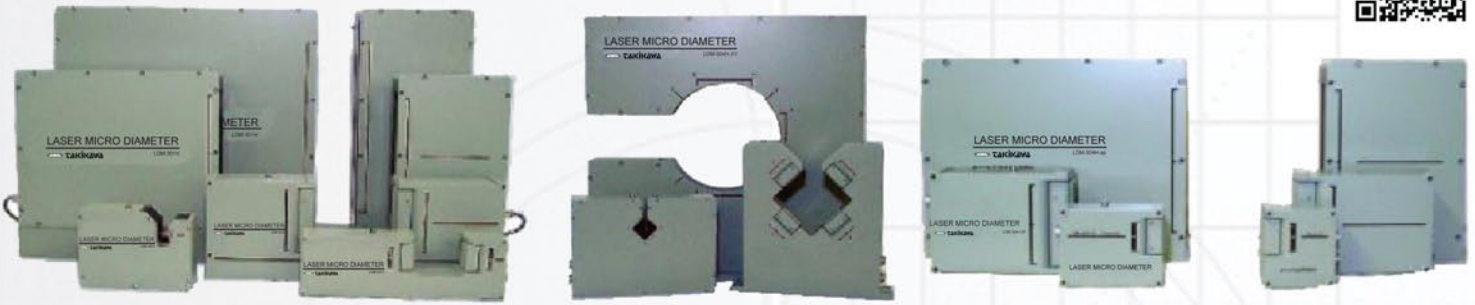
MICRO-EPSILON capaNCDT sensors



confocalDT IFS 2403

Confocal chromatic hybrid sensors

- Hybrid sensors ø8mm with axial or radial (90°) measuring direction
- Submicrometer resolution
- One-sided thickness measurement of transparent material
- Displacement and position measurement
- Tiny spot size
- ATEX / EX approved for hazardous areas



STANDARD TYPE		
Model	Range (mm)	Accuracy
LDM-301H	0.02-1	± 1 μm
LDM-302H	0.05-5	± 1 μm
LDM-303H	0.3-30	± 2 μm
LDM-304H	0.5-90	± 5 μm
LDM-305H	1-180	± 10 μm
LDM-306H	2-300	± 30 μm

DUAL AXIS		
Model	Range (mm)	Accuracy
—	—	—
LDM-302H-XY	0.05-5	± 1 μm
LDM-303H-XY	0.3-30	± 2 μm
LDM-304H-XY	0.5-90	± 5 μm
LDM-305H-XY	1-180	± 10 μm
LDM-306H-XY	2-300	± 30 μm

SEPARATE SCANNER		
Model	Range (mm)	Accuracy
—	—	—
—	—	—
LDM-303H-SP	0.3-30	± 2 μm
LDM-304H-SP	0.5-90	± 5 μm
LDM-305H-SP	1-180	± 10 μm
LDM-306H-SP	2-300	± 30 μm



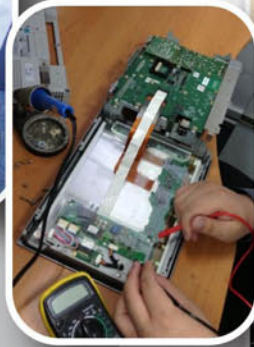
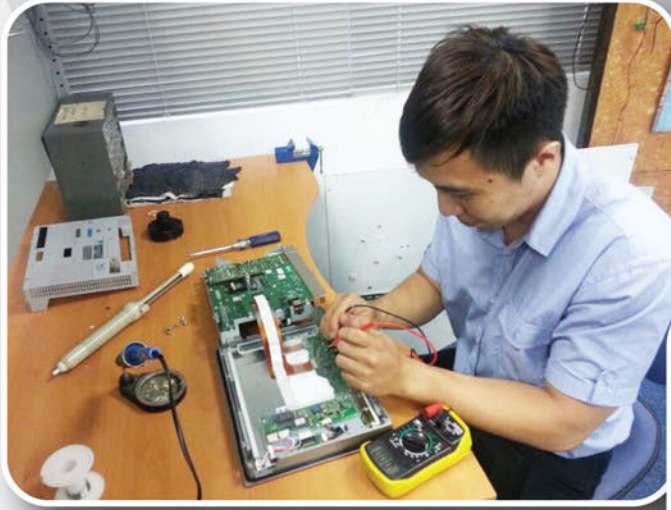
	LDM-110	LDM-110EX	LDM-1000	LDM-1000EX	LDM-210
No.Axes	For Single	Max. 2	Max. 5	Max. 3	For Single
Scanning cycle	400 time / sec	400 time / sec	400 time / sec	400 time / sec	2000 time / sec
No. of Averaging time	1 - 2048 (16 steps)	1 - 2048 (8 steps)	1 - 2048 (22 steps) LDM-1000LS 1 - 1024 (19 steps) LDM-1000XY		1 - 2048 (12 steps)



Takikawa Laser Micrometer interface to HMI

Datalogging, Event Alarm, History, Data Sampling, Trend Graph, Data collect via 4GB SD Card (approximate 1 month of data storage)

Applications



PRODUCT REPAIRS & SERVICES

PRODUCT TRAINING FACILITY





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