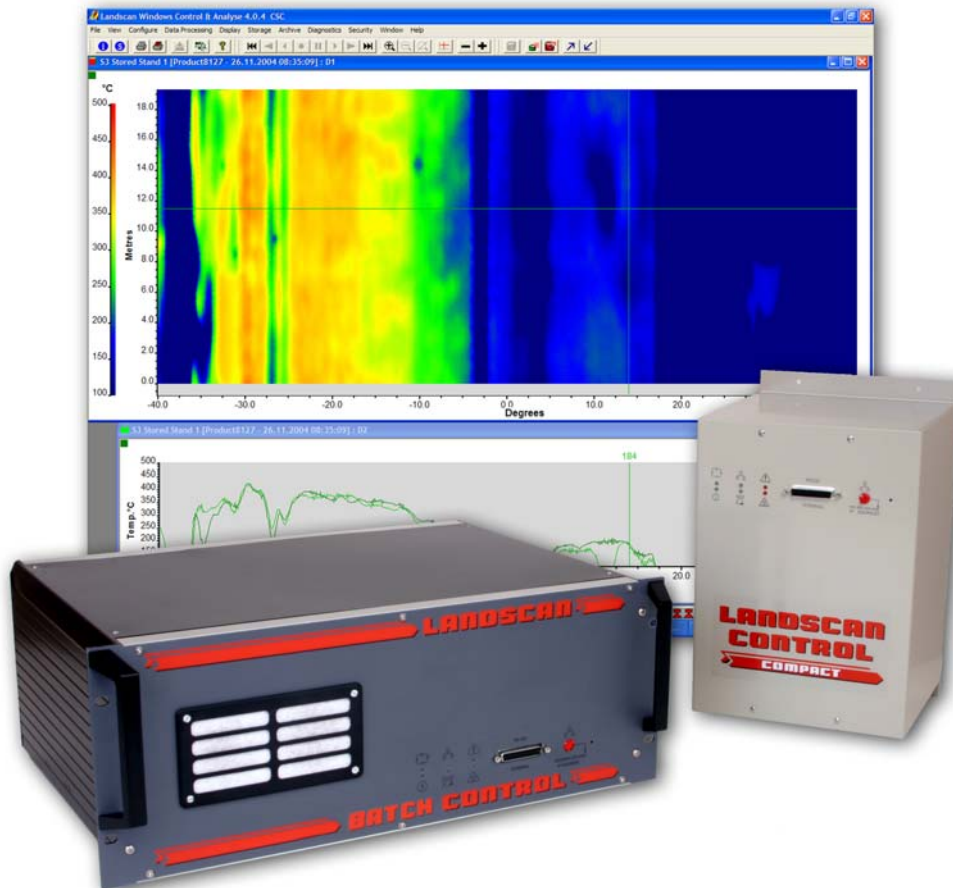


LAND



LANDSCAN Control Processors

Infrared Linescanner
Control Signal Processors



Landscan Control signal processors provide the essential interface between the compact, high speed range of LSP infrared linescanners and industrial process control computers.

Benefits

- Improved product quality and operating profitability
- Closer control of heating and manufacturing processes
- Detect product defects and heating problems quickly
- Reduced set-up time and scrap rate
- Automated quality monitoring

Features

- 0.1°C temperature resolution (LSC-B)
- 40 to 80° adjustable scan angle (LSC-B)
- Choice of signal processing units to suit the application
- Choice of mounting arrangement
- Single cable connection between scanner and processor
- Powerful, versatile, software system with single and multiple channel digital/analog input and outputs

LANDSCAN Control Processors



Landscan Control processors offer the user a wide choice of process monitoring and control options

Choice of Control Processors

There are two Landscan infrared linescanner Control signal processors to choose from to suit your particular requirements:

- Landscan Control Compact LSC-C
- Landscan Control Batch LSC-B

Landscan Control Compact (LSC-C) is a simple, economic back-of-panel mountable unit, and Landscan Control Batch (LSC-B) is a 19in rack mountable unit.

Typical Applications

Choose the Landscan Control processor to best suit your application:

Landscan Control Compact

- Continuous, linear moving products and where limited auxiliary inputs and outputs are required.

Landscan Control Batch

- Linear products such as hot steel strip, galvanising/galvanneal and float glass; discrete and rotary products such as automotive glass, fibre board, torpedo car protection and thermoformed plastic sheet and where flexible inputs and outputs are required.

Process Control

The outputs from the LSP linescanner head are transmitted to a Landscan Control signal processor. The processor can be configured using the Landscan Configuration software supplied as part of the system.

Once configured Landscan Control processor provides communications, by serial or Ethernet connection, with the plant PLCs. Additional display, analysis and data storage functionality is provided by a PC server operating the Windows based Landscan Control and Analyse (WCA) software system.

The Landscan Control Batch LSC-B processor provides optional OPC communications.

Refer to the Landscan Software brochure for further information on Landscan WCA.



LANDSCAN

Control Batch

Landscan Control Batch is an extremely powerful signal processor which can be configured specifically to suit the particular process control application

- **Linear** - the product passes in a straight line through the scanner head field
- **Product** - discrete, individual products
- **Rotary** - the product is rotating as it passes through the scanner field of view

Landscan Control LSC-B has the functionality of the LSC-C and more. It has additional product orientated functionality and the option of up to 3 additional DAIO boards. Each DAIO board can generate up to 4 20mA outputs for zone temperatures and product position, and 4 relay outputs for temperature alarms.

Two of the DAIO boards also handle analog (V/mA) or digital inputs for signals such as product speed, reference temperatures and signals from HMD's or other switches for product detection.

LSC-B can detect the beginning and the end of a product and stores the measured data internally.

LSC-B can calculate area temperatures, based on this two dimensional temperature array. This functionality is particularly useful in industries such as plastics thermoforming and glass tempering where the product is heated by a number of individual heaters; or in applications where the product needs temperature monitoring by areas.

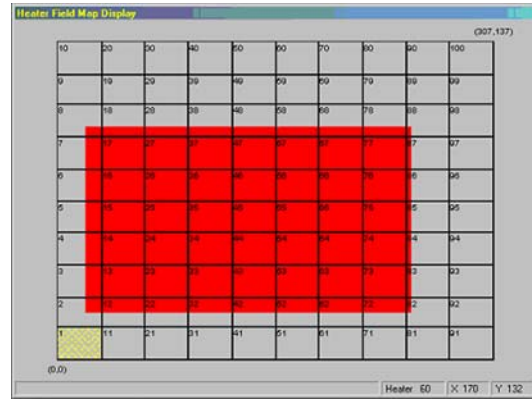
Additionally, the LSC-B can operate as an OPC server. All area or group temperature information is available for the heater control PC. Refer to LAND for further information.

The LSC-B can also interface with digital incremental encoders to correct the non linear image from rotary thermoforming machines into the original shape. LSC-B is able to take into account the machine acceleration, velocity and deceleration during the index. (The thermoforming industry brochure provides further information.)

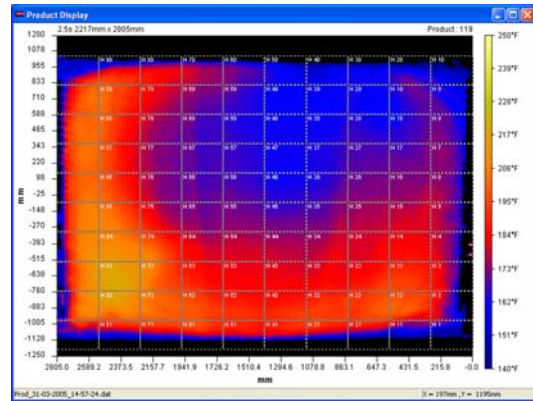
Heater Field Map

The heater field map display shows a graphical representation of the current heater field configuration.

The relative dimensions of the oven, product and individual heaters are set by the user. The user can map and configure individual heaters within a heater field, and can set high, low and average alarm trigger levels within a heater group. Temperature data for each detected product can be overlaid and statistical data then calculated for each grid element.



Above: Heater Field grid. Below: heater field grid overlaid on a typical Map Display



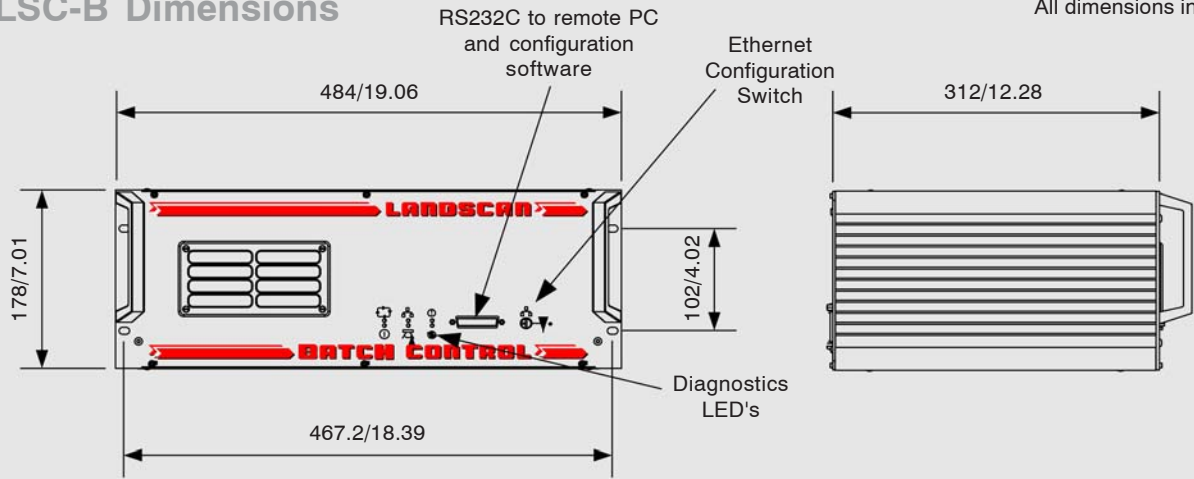
Landscan Control Batch LSC-B 19in rack mount processor with multi-channel inputs/outputs for linear, rotary and discrete products

Summary of Landscan Control Functions

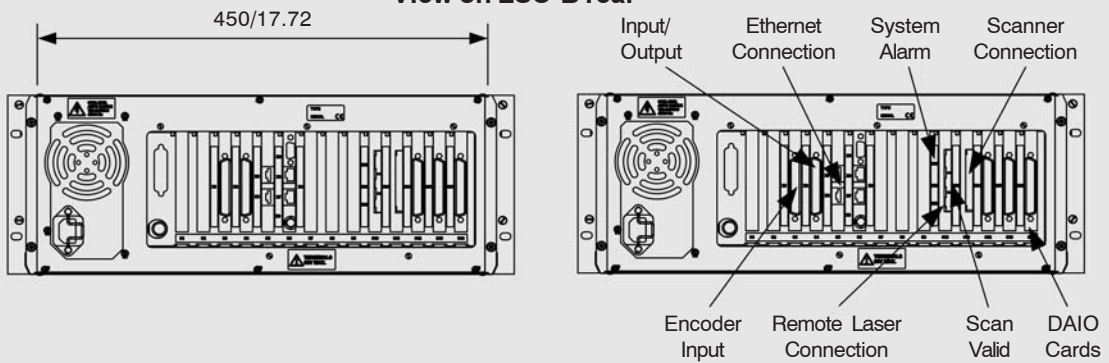
	LSC-C	LSC-B
Inputs:		Scan valid, fast temperature
Data structure:		1000 samples per line, up to 100 lines per second
Processing format:	One line at a time	One line at a time; products up to 50,000 lines; processing time = 10% of product time
Processing capability:	Up to 14 user definable cross product zones (min, max, mean, high/low alarms)	Up to 500 user definable product areas (min, max, mean, high/low alarms)
Processor Configuration (Data display, Product Storage):	Landscan Configuration software, Landscan WCA (multi-processor capability)	
Data outputs:	Serial, TCP/IP	Serial, TCP/IP, OPC (optional)
Ethernet ports:	Single port – one client	Dual ports – up to 4 clients

LSC-B Dimensions

All dimensions in mm/in

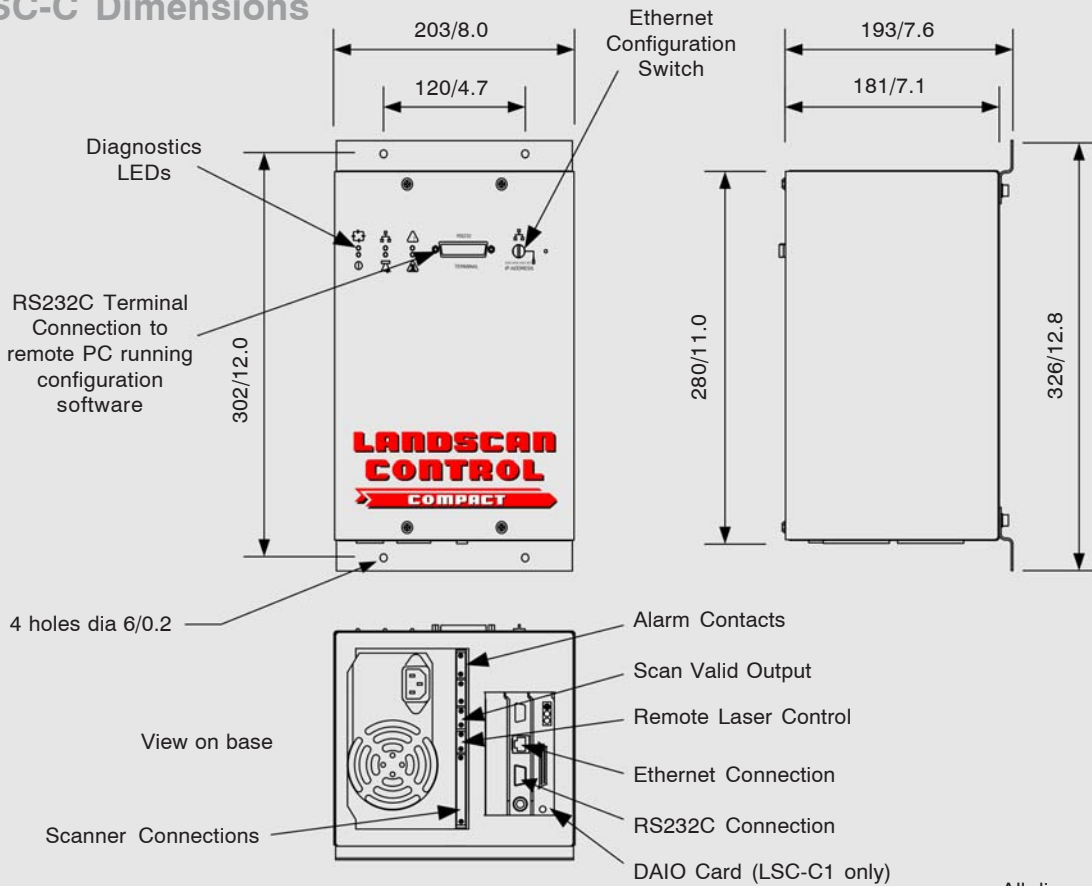


View on LSC-B rear



LSC-C Dimensions

All dimensions in mm/in



Processor Specifications

	LSC-C Compact	LSC-B Batch
Enclosure type:	Panel/surface mount	19in rack mount
Fast Temperature Input: Input error:	4 to 20mA input, linear <0.15°C (full range, 600°C/1112°F span)	
Scan valid input:	Link selectable between TTL and RS485	
Scan valid retransmission output: Minimum load:	5V ±20% 10kohms	
IATS display resolution:	1°C (range -10 to 90°C/14 to 194°F)	
Emissivity:	0.2 to 1.00	
Current output error:	<0.3% of span (0 to 20mA) max load 500ohms	
Voltage input error:	<0.2% of span	
Current input error:	<0.2% of span	
System alarm:	Relay contact, NO/NC 50V d.c., 500mA	
Laser On/Off:	External contact	
Ambient operating temperature:	10 to 50°C/50 to 122°F	
Ambient temperature drift:	<0.025% of reading per 10°C/50°F (all inputs/outputs)	
Power requirement:	100 to 240V 50/60Hz, 250W	
d.c. power output:	24 ±1V d.c., 1.5A peak 1A continuous	31 ±1V d.c., 1.5A peak, 1A continuous
Connections Scanner head: Ethernet: Serial: Digital/analog inputs/outputs:	Pheonix de-mountable plugs RJ45 2x RJ45 D25 socket front mounted D37 socket	
Maximum cable length Scanner: Data only:	15m/49ft 300m/984ft	150m/492ft

DAIO boards

Processor Type	Max No. DAIO boards	Analog Outputs (mA)	Digital Outputs	Analog Inputs (V/mA)	Digital Inputs
Landscan Control Compact (LSC-C0)	0	-	-	-	-
Landscan Control Compact (LSC-C1)	1	4	4	4	4
Landscan Control Batch	3	12	12	8	8



Input/outputs

Current Output:	0 to 20mA or 4 to 20mA, 500 Ohms max
Analog Inputs:	0 to 20mA or voltage 1/2/5/10V d.c.
Digital Inputs:	Active high; 4V d.c. to isolated 0V Closed Contact; connected to isolated 24V
Digital Output:	Relay contact NO/NC, 50V d.c. max, 500mA

Bi-directional Communications

Ethernet Communications

Ethernet standard:	IEEE frame type
Connection:	Rear panel RJ 45 connector
Cable type:	10 BASE-T/100 BASE-T Cat. 5UTP
Transmission distance:	100m/328ft, with repeater 457m/1499ft
Communication protocol:	TCP/IP
Ethernet transfer rate:	Auto-select 100M bits/s or 10M bits/s

Serial Communications

Type:	RS 232C (3 wire)
Connectors:	25 D-connector (setup - front panel)
Baud Rate:	115200 (fixed)

Ordering Information

Processor Type	Model No.	No. of DAIO Boards	Part No.
Landscan Control Compact	LSC-C0	0	092.677
Landscan Control Compact	LSC-C1	1	800010
Landscan Control Batch	LSC-B000	0	092.739
Landscan Control Batch	LSC-B100	1	092.740
Landscan Control Batch	LSC-B110	2	092.741
Landscan Control Batch	LSC-B111	3	092.742
Landscan Control Batch-P	LSC-B000-P	0 + Encoder Card	092.743
Landscan Control Batch-P	LSC-B100-P	1 + Encoder Card	092.744
Landscan Control Batch-P	LSC-B110-P	2 + Encoder Card	092.745
Landscan Control Batch-P	LSC-B111-P	3 + Encoder Card	092.746

Optional Extras

Sensors and Position Pack Connection for LSC-B-P

Encoder Sensor Assembly			031.834
Digital Sensor Assembly			031.835
Position Pack Connection			031.850
Processor Upgrade Kit	DAIO card upgrade	4 D/A out + 4 D/A in	031.788

For further information please contact the appropriate office or
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