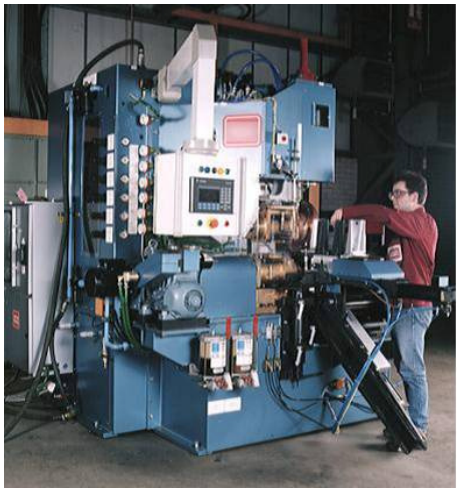
Publication Number: 110718C

WS700B Brake-shoe Weld Processor

Versatile low cost constant current Brake-shoe welding control

The WS700B is a high accuracy resistance weld processor which has been designed specifically for 'Brake-shoe' applications. The design is very compact with an extensive range of features. The WS700B provides 64 welding programs, each of which may have settings for up to 16 projections and an extended range of functionality including constant current control, current monitoring as well as many other features shown overleaf. Because of its highly compact construction the WS700B lends itself to integration into customer control cabinets and retrofits, as well as completely self contained resistance welding control applications. The controls have a very thin profile and hence they lend themselves to door mounting. Connections to the units are plug-in, resulting in a changeover time of just a few minutes. For full functionality please see next page.

WS700B Applications:
Automatic and Semi-automatic multi-projection Brake-shoe welders



- Up to 16 spot/projection welds per program.
- 64 Programs (internally or externally selected).
- Constant current regulation of % Phase angel control.
- Current monitoring (high/low limits for each spot).
- Proportional valve controller (0...10V).
- Pressure monitoring (High/Low limits).
- Part Counter with programmable blocking.
- Primary or Secondary feedback via Toroid or CT.
- Toroid and PV calibration functions.
- Toroid test function.
- Large 4 x 20 character display.
- RS232 port for PC communications and print out of weld data.

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WS700 64 Program weld processor — Feature Table

Standard Features

Brake-shoe welding controller

Up to 16 welds per Brake-shoe

Up to 64 different Brake-shoes

Constant current regulation

Current monitoring on each weld

Proportional valve controller

Pressure / (high/ low limits) (kN/V)

Part counter

Primary or secondary monitoring

Toroid/CT and PV calibration

Toroid test feature

Large LCD with 4 lines x 20 Characters

Touch sensitive programmer keypad

Toroid and PV calibration functions.

RS232 port, for PC or printer communications.

All inputs and outputs 24V DC.

Optional Windows based programming software.

Blanking On / Off

Keypad On/Off

Frequency	50 or 60 Hz
Heat range	High/Low

Toroid sensitivity (100..2000 mV/kA)

Wait for correct weld pressure prior to weld continue On / Off

Program select - internal default or external binary

Front panel mounting

Size:
292mm x 172mm x35mm (50mm with connector)

Weld Program x 64

Total number of Welds	1..16
Squeeze	0...99 cycles
Hold cycles	0...99
Pressure	0...10 volts

For each of 1..16 Welds:-

Weld delay n	0...99 cycles
Weld n	0...99 cycles
Heat n	0...99%
Current n	0...60 kA
Control method n	PHA or CCR

Counter

Actual count now	0..9999
Terminal count	0..9999

Stop/continue at end.

Printer

Print condition (All/Pass/Fail/Off)

Lines per page

Print Format (Table or ASCII-HEX)

Inputs

Start/Initiate sequence

Weld On/Off

Start Weld

SCR thermostat

Reset Fault

Reset Counter

Program 1 select

Program 2 select

Program 4 select

Program 8 select

Program 16 select

Program 32 select

Transformer thermostat

STOP

Outputs

Weld Air Valve (WAV)

Ready

EOS

Fault

Counter

Monitor Limits x 64

Pressure monitor	On / Off
Pressure low limit	0...99%
Pressure high limit	0...99%
Current monitor	On/Off

For each of 1...16 welds:-

Current high limit	Weld n (0...99%)
Current low limit	Weld n (0...99%)

Analogue I-O

Analogue Input 0....10 volts

Analogue Input 0....10 volts

Toroid input 150mV/1000 Amps

Calibration Limits

Toroid (100...2000 mV/kA)

Secondary/Primary ratio (1:1...199:1)

Secondary/Primary offset (-1kA...+1kA)

Pressure (2 points, kN/V)

Electrical Characteristics

Power supply: 24 volts DC

Quiescent Current: 500mA (no outputs on)

Outputs:

Total Number of Outputs	= 8
Voltage	= 24 Vac
Current	= 500 mA
Type	= current sourcing

Note: The WAV circuit includes a safety relay

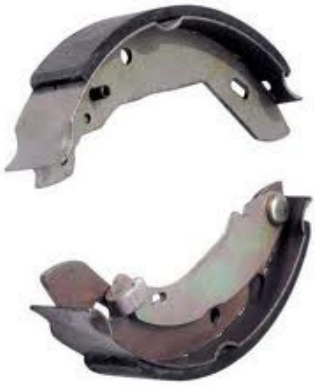
Inputs:

Total number of Inputs	= 16
Voltage	= 24 Vdc
Current	< 10 mA
Type	= current sinking

Weld Analogue Output = 0-10V

Proportional valve output = 0-10V

Transducer Input = 0 - 10V



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