

WS700B Brake-shoe Weld Processor



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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 angle 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.

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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