

Acrison®

Model SBC-2000

Weigh Feeder Controller

Microprocessor controller
for Acrison Weigh Feeders



SBC-2000 *Microprocessor Weigh Feeder Controller*

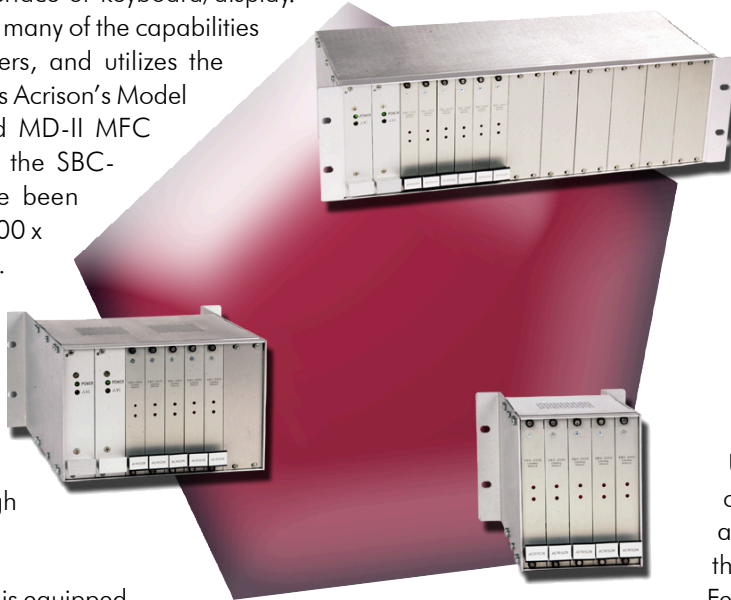
Acrison announces another addition to its industry leading line of weigh feeder (gravimetric) controllers—the SBC-2000. Acrison developed the SBC-2000 as a single board controller solution for applications that require central computer control and minimal hardware, but which do not need a local user interface or keyboard/display. The controller itself shares many of the capabilities of other Acrison controllers, and utilizes the same control algorithms as Acrison's Model MD-II 2000, C-702 and MD-II MFC Controllers. However, in the SBC-2000, all functions have been integrated onto a single 100 x 160 mm control module. This is a streamlined and modular design that provides an economical and flexible solution for operating Acrison weigh feeders in either continuous or batch weigh feeding applications.

The SBC-2000 Controller is equipped with dedicated scale and motor controller serial channels plus two independent serial communication channels. The communication channels are provided for connection to the host controller or other device which will be used to enter set points and calibration data as well as to activate commands. When used with Acrison equipment such as the Multi-Purpose KDU, these channels can facilitate implementation of Ratio/Proportioning or Master/Slave configurations as well as independent operation of each of the SBC-2000 Controllers. Additional networking functionality can be added to these channels by the addition of Acrison's SBC-2000 Profibus Module, Ethernet Module, Infrared Port, Modem Module or Acrison Gateway. The SBC-2000 host communication channels are compatible with most of Acrison's many software protocols. Please contact Acrison for further information.

The SBC-2000 Control Module typically mounts in a 3U high, VME-style card rack, which is available in rack and plate mounted versions. Plate mountable card racks are available in 84HP, 40HP and 20HP widths (approximately 17", 8" and 4" excluding mounting flanges). The SBC-2000 Control Module front panel itself measures 3U x 4HP (approximately 5" x 0.8"). Alternatively, the control module itself can be plate mounted loose. When combined with

Acrison's Model 040 SCR/DC Motor Controller, the SBC-2000 Control System is Acrison's most economical weigh feeder controller.

Either the Model 040 or 060 SCR/DC Motor Controllers may be utilized to operate variable speed DC motors in conjunction with the Model SBC-2000. These variable speed controllers are typically supplied loose for user mounting, or can be optionally supplied in a variety of enclosures including a separate NEMA 4/12 rated enclosure. The Model 040 and 060 SCR/DC Controllers are also fully UL, CSA and IEC certified and can be mounted up to approximately 500 feet from the Model SBC-2000 Weigh Feeder Controller, if required.



(Use of the Model 040 SCR/DC Controller requires an SAS-22 Module for interfacing.)

Standard Features

- State of the art controller featuring all CMOS logic, including a CMOS microcomputer.
- Gravimetric and volumetric control mode selection.
- "Hot-Swap" modules utilizing +5 VDC power supplies (rack mounted or loose).
- Two independent RS-422/485 serial communication channels for connection to host controllers.
- Proprietary Acri-Lok® feature ensures optimum continuous metering accuracy by securing the metering mechanism in a volumetric mode should the actual weight signal experience an unexpected disturbance during operation.
- Proprietary Batch-Lok feature ensures optimum batch accuracy should the weighing system experience any type of disturbance (including loss of power) during a batching cycle that would otherwise adversely affect performance.
- Dual totalizers for maximum flexibility.
- Automatic compensation for various external factors and a variety of operational alarms that can be selected to "self-clear" or "latch" as desired.

- Two user-programmable contact closure inputs.
- Non-volatile storage of all operating data and set points.
- Delayed run and delayed stop feature for blending applications.
- The SBC-2000 Controller is totally adjustment-free.
- Maximum motor speed threshold setting and alarm.
- Automatic feeder stop on hopper (tank) empty or refill timer time-out can be selected.
- Two user-programmable outputs can be selected from the following parameters:

Outputs Table			
Off	- Dev	Low Level	High Level
Power On	+ Dev	Overfill	Empty
Run	± Dev*	No Tach	Overload
Stop	Dev Alarm*	Refill	Alarm*
Acri-Lok	Scale Alarm*	Refill Pulse	Vol Mode
Alarm 2	No Scale	Refill Timer	

*Multiple Parameters

- User-programmable operating features such as:

Typical Operating Parameters		
Acri-Lok Sensitivity	Acri-Lok Timer	Low/High Hopper Levels
Remote Run	Run/Stop Delay Timers	Fast Start Timer
English/Metric Units	No Tach Disable	Alphanumeric Feeder ID
Deviation Alarm Timer	Auto/Manual Refill	Empty Level Alarm

Optional Features

- Infrared Port Module, Profibus-DP Module, Ethernet Module, Acrison Gateway.
- High level output relays.
- Integral power supplies.

Hardware Features/Specifications

- Two open-collector, user-programmable, low power digital outputs rated 20 VDC, 0.002 amps maximum. May require additional equipment, such as relays, to operate higher power devices.
- The standard enclosure is rack mounted, but can be supplied as wall mounted, plate mounted, loose or free standing. The unit measures 5.25" high x 19" wide x 8" deep for the standard rack mounted unit.
- The weigh feeder's motor controller is provided separately and connects to the Model SBC-2000 Control Module via a 4-wire, electrically isolated, 20 mA current loop interface, operating at 9,600 baud.
- Two optically isolated digital inputs. Operated from an external dry contact closure. May be user programmed from the options shown below:

Inputs Table		
Alarm Acknowledge	Refill	Clear Totals
Delayed Permissive Run	Remote Run	Permissive Run

- The feeder scale signal is a serial RS-422/485, 2-wire, 5 VDC differential signal at 9,600 baud, optically-isolated (passive).
- The two serial communication channels provide electrically isolated RS-422/485, 4-wire or 2-wire, 5 VDC differential signal at baud rates of 9,600, 19,200, 38,400 or 57,600 (depending on protocol). The available software protocols are shown in the following Table:

Data Link Software Protocols		
Modbus ASCII	Modbus RTU	Fisher E.I.C.
Modbus RTU/32	Modbus RTU PLCG/DHP	Modbus RTU APM SI
MB 984	SDLC	Siemens 3964R
Allen-Bradley DA	A-B DH/DHP (PLC-5) ¹	ASCII DB

¹ Requires DB Protocol and Acrison's Gateway Module.

Software protocols are fully described in Acrison's Interface Manual.

Specifications

- Weight of a controller for 6 feeders is approximately 4 pounds for the DC powered unit and 7 pounds for the AC powered version (integral, rack-mounted power supplies).
- The DC-powered unit (external supplies) requires a logic +5 VDC power supply capable of providing 110 mA per control module, plus a separate, isolated +5 VDC supply which can provide 25 mA per control module.
- The AC-powered controller requires 115 or 230 VAC, 50/60 HZ at 2A.
- Temperature range: Operating: 0° to 50°C; storage: -20° to +70°C.

Certifications

The Model SBC-2000 Weigh Feeder Controller has been tested by an independent testing agency and has been certified to meet the following standards:

- FCC Part 15, Subpart B for Class A equipment.
- UL 508 safety approval.
- CSA 142 safety approval.
- European EMI conformity to EN55011.
- IEC204 European safety approval.
- EN50082-1 European susceptibility approval.

Discover the difference!

We cordially invite you to witness a test in Acrison's state-of-the-art Customer Demonstration Facilities handling your actual product(s) with the specific equipment we recommend for the application. Usually, there is no cost or obligation for this service.

Discover the difference in technology, quality and performance of Acrison equipment.



Delfweg 18, NL-2211 VM Noordwijkerhout-Holland
Tel.: +31 (0)252 375068 - Email:info@tbma.com
Tel.: +32 (0)9 236 64 69 - Email:info@tbma.be
www.tbma.com

Acrison products...

- Models 101 and 130 Volumetric Feeders
- Models V101 and V130 Volumetric Feeders
- Model 1015 Volumetric Feeder Series
- Model 105 Volumetric Feeder Series
- Model W105 Volumetric Feeder Series
- Model 120 Volumetric Feeder
- Model 140 Volumetric Feeder Series
- Model 170 Volumetric Feeder Series
- Model 200 Series of Weigh Belt Feeders
- Model 203B Series of Weigh Auger Feeders
- Model 270 Series of In-Line Weigh Feeders
- Models 402 and 404 Series, A405 and 406 ("Weight-Loss-Differential") Weigh Feeders
- Model Series 403 ("Weight-Loss-Differential") Weigh Feeders
- Model 403B(D) Batch/Dump Weighing Systems
- Model 404BZ(BU) Bulk Bag Unloader Batch Weigher
- Models 350 and 301 Continuous Blenders and Blending Systems
- Multiple Auger Bin Dischargers and Multiple Auger Bin Discharger Hoppering Systems
- Multiple Auger Bin Discharger Feeders
- Vibratory Bin Dischargers
- Model 500 Series of Polyelectrolyte Metering and Wetting Systems
- Water and Waste Treatment Systems
- Volumetric and Gravimetric Feeder Controllers and Control Systems
- Accessory Equipment for Acrison Products

"Visibly Different...Measurably Better"



20 Empire Blvd., Moonachie, New Jersey 07074
Phone: 201-440-8300 · Fax: 201-440-4939
Email: Informail@acrison.com
Website: www.acrison.com