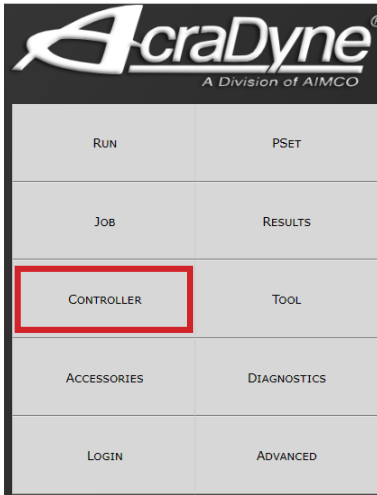
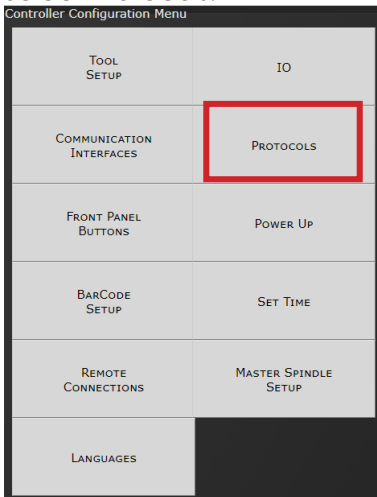


The controller has the ability to accept an “Open” protocol connection. This connection is available over Ethernet and/or the standard serial ports. This connection allows you to enable/disable the tool, set the active parameter set, collect rundown data, and much more.

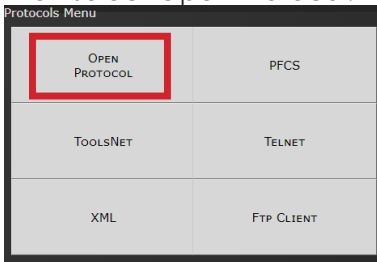
From the main menu, select Controller.



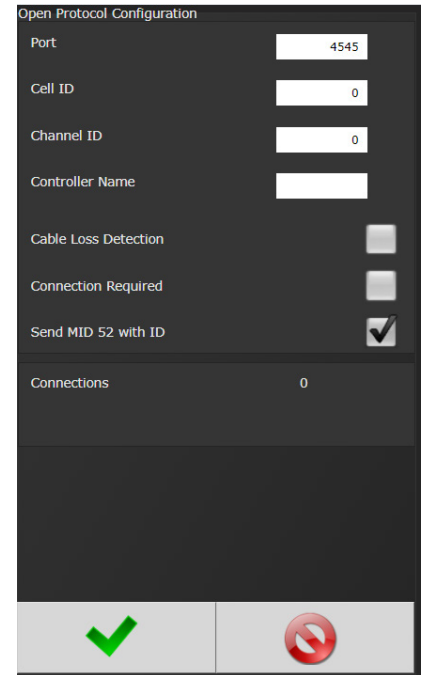
Select Protocols.



Then select Open Protocol.



- **Port Number:** TCP port number the controller listens on to accept an Open protocol connection via Ethernet. The default port is 4545 and can be changed if required.
- **Cell ID:** Optional variable passed through the Open Protocol Connection.
- **Channel ID:** Optional variable passed through the Open Protocol Connection.
- **Controller Name:** Optional variable passed through the Open Protocol Connection. To set up a serial port for Open Protocol, set the function on the desired COM port to “Open Protocol.”
- **Cable Loss Detection:** Used only for an Open Serial protocol connection. When set to 1, the controller will close the connection on a time-out. When set to 0 the controller will not close the connection (see the latest Open Protocol Specification for details on time-outs) and keep alive messages.
- **Connection Required:** Determines whether an Open Protocol connection is required for the tool to operate. If checked, the tool will be disabled unless there is currently a connection.
- **Send MID with ID:** Some versions of the Open protocol specification defines MID 52 with an ID and some define it without an ID. This option is used to meet both versions of the specification.
- **Connections:** Currently active Open Protocol connections.



## Controller Supported MIDs

Supported MID			
MID	Description	Revisions	Note
1	Communication start	1,2,3	
2	Communication start acknowledge	1,2,3	
3	Communication stop		
4	Command error		
5	Command accepted		
8	Application data subscribe		Support MID 900 curve data only
9	Application data unsubscribe		Support MID 900 curve data only
10	Parameter set ID upload request		
11	Parameter set ID upload reply		
12	Parameter set data upload request		
13	Parameter set data upload reply		Always returns a batch size of 0
14	Parameter set selected subscribe		
15	Parameter set selected		
16	Parameter set selected acknowledge		
17	Parameter set selected unsubscribe		
18	Select Parameter set		
19	Set Parameter set batch size		
20	Reset Parameter set batch counter		
30	Job ID upload request		
31	Job ID upload reply		
34	Job info subscribe		
35	Job info		
36	Job info acknowledge		
37	Job info unsubscribe		
38	Select Job		
39	Job restart		
40	Tool data upload request	1,2	
41	Tool data upload reply		
42	Disable tool		
43	Enable tool		
50	Vehicle ID number download request		
51	Vehicle ID number subscribe	1,2	
52	Vehicle ID number	1,2	Has an option to send w/without IDs
53	Vehicle ID number acknowledge		
54	Vehicle ID number unsubscribe		
60	Last tightening result data subscribe	1-6,999	
61	Last tightening result data		
62	Last tightening result data acknowledge		
63	Last tightening result data unsubscribe		
64	Old tightening result upload request		

Supported MID			
MID	Description	Revisions	Note
65	Old tightening result upload reply		
70	Alarm subscribe		
71	Alarm		
72	Alarm acknowledge		
73	Alarm unsubscribe		
76	Alarm status		
77	Alarm status acknowledge		
80	Read time upload request		
81	Read time upload reply		
82	Set time		
90	Multi spindle status subscribe		
91	Multi spindle status		
92	Multi spindle status acknowledge		
93	Multi spindle status unsubscribe		
100	Multi spindle results subscribe		
101	Multi spindle results		
102	Multi spindle results acknowledge		
103	Multi spindle results unsubscribe		
113	Flash green light on tool		
127	Abort Job		
128	Job batch increment		
129	Job batch decrement		
130	Job off		
150	Identifier download request		
157	Reset all Identifiers		
200	Set external controlled relays		Only supports 0 (off) and 1 (on)
210	Status external monitored inputs subscribe		
211	Status external monitored inputs		
212	Status external monitored inputs acknowledge		
213	Status external monitored inputs unsubscribe		
214	IO device status request	1,2	
215	IO device status reply		
216	Relay function subscribe		See supported relay functions below.
217	Relay function		
218	Relay function acknowledge		
219	Relay function unsubscribe		
241	User data subscribe		Out_1 - Pulse status (0= OK, 1 = Low, 2 = High)
242	User data		
243	User data acknowledge		
244	User data unsubscribe		Out_2 - Pulses Out_3 - Undefined Out_4 - Undefined
900	Trace data		Trace type 1 & 2 only (angle & torque)
9999	Keep alive open protocol communication		

## Supported Relay Functions

Supported Relay Functions Number	Function
1	OK
2	NOK
5	Low Torque
6	High Torque
7	Low angle
8	High angle

Supported Relay Functions Number	Function
9	Cycle complete
10	Alarm
11	Batch NxOK
12	Job OK
19	Tool ready
20	Tool start switch

Supported Relay Functions Number	Function
21	Dir. switch = CW
22	Dir. switch = CCW
26	Tool running
145	Start Trigger Active
276	Cycle abort



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CORPORATE HEADQUARTERS  
10000 SE Pine Street  
Portland, Oregon 97216  
Phone: (503) 254-6600  
Toll Free: 1-800-852-1368

AIMCO CORPORATION DE MEXICO SA DE CV  
Ave. Cristobal Colon 14529  
Chihuahua, Chihuahua. 31125  
Mexico  
Phone: (01-614) 380-1010

LIT-MAN177\_OPENPROTOCOL  
08-15-22  
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