



2016
Electrical Component
Updates for FIRST
Robotics Competition



Information Presented by:

- Information published on the FIRST website
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2015 Robot Radio D-Link DAP-1522 (Revision B)



Wireless Bridge Will Be Replaced With an Open Mesh's OM5P-AN Dual Band Access Point



- This is the only permitted device for communicating to and from the ROBOT during the matches.
 - It is not clear how the Signal and Power will be connected.
 - The Dual Band Access Point must be mounted such that the diagnostic lights are visible to ARENA personnel.



2015 FIRST Legal Motor Table and Changes

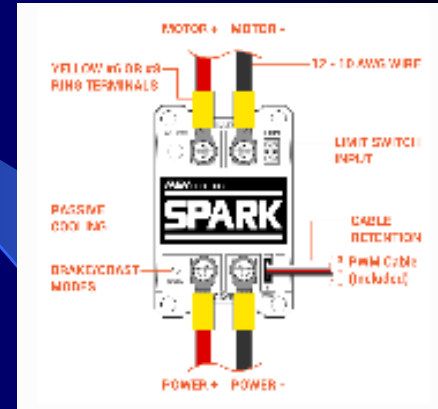
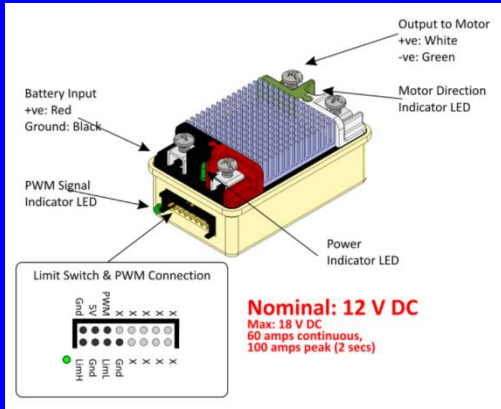


Motor Name	Part Numbers Available	Max Qty Allowed
CIM	FR801-001	6
	M4-R0062-12	
	AM802-001A	
	217-2000	
	PM25R-44F-1005	
	PM25R-45F-1004	
	PM25R-45F-1003	
	PMR25R-45F-1003	
BaneBots Motors	PMR25R-44F-1005	unlimited
	M7-RS775-18 / RS775WC-8514	
	M7-RS775-12 / RS775PH-6221	
	M5-RS550-12 / RS550VC-7527	
AndyMark 9015	M5-RS550-12-B / RS550VC-7527L	unlimited
	am-0912	
Denso Throttle Control	AE235100-0160	unlimited
VEX BAG and/or mini-CIM	217-3351	unlimited
	217-3371	
AndyMark PG	am-2161 (alt. PN am-2765) am-2194 (alt. PN am-2766)	unlimited
Automotive Window Motors	Various	unlimited
Automotive Door Motors		
Automotive Windshield Wiper Motors		
Automotive Seat Motors		
Bosch Motor	6004 RA3 353-01	unlimited
Snow Blower Motor	am-2235	unlimited
Electrical solenoid actuators, no greater than 1 in. stroke and rated electrical input power no greater than 10 watts (W) continuous duty at 12 volts (VDC)		unlimited
Hard drive motors or fans that are included in the 2015 Kickoff Kit, 2015 FIRST Choice, are a part of a legal motor controller (including manufacturer provided accessories), or COTS computing device		unlimited
PWM COTS servos with a maximum power rating of 4W each at 6VDC Per the Servo Industry, Servo Max Power Rating = (Stall Torque) X (No Load Speed)		unlimited

Considering their obsolescence and resulting scarcity on the market, BaneBots' 550 and 775 motors will no longer be included on the list of legal motors.



Additional Motor Controllers added to the Legal 2015 Motor Controllers



- The following motor controllers will be added to the list of Motor Controllers for the 2016 season. At this time we do not have complete information on these controllers
- [SD540 Motor Controller](#) (Part #: SD540x1)
- [Spark Motor Controller](#) (Part #: REV-11-1200)
- At this time we do not have complete information on these controllers

➤ Every team will get a voucher to order three Victor SPs *or* two Talon SRXes from VEX Robotics. Additionally, Rookie teams will receive 2 Victor SPs in their Kickoff Kit. There will also be limited quantities of Victor 888s, Victor SPs, Talon SRXes, and Sparks in *FIRST* Choice.



US Digital #E4P-250-250-N-S-D-D-B (encoders), which are commonly used by FIRST robotics teams will not be manufactured by US Digital in 2016.

They say they will manufacture a “virtually identical” unit. The FIRST organization have not yet given permission to allow the usage of these devices at this time.



Thanks for much
information which
was found
at these locations



- FIRST website
→ <http://www.USFIRST.org/>
- REV Robotics LLC.
→ <http://www.revrobotics.com/product/spark/>
- mindsensors.com
→ <http://www.mindsensors.com/frc/135-motor-controller-for-frc>
- US Digital
→ <http://www.usdigital.com/products/encoders/incremental/rotary/kit/E4P>