

future-I, -xI, -xxI Speed controller for sensored and sensorless, brushless electric three phases motors

The future speed controller series are increased by -I, -xI and -xxI types.

These controllers are made with a totally new concept, with a new type of microprocessor and rugged FETs in the D²Pack case.

This type is especially made for the extreme applications in F3A-X models and/or industrial purposes.

Made in Germany!

The future-I, -xI and -xxI are configurable as the future-universal series via DIL-switches.

Other extraordinarily features "State Of The Art" are:

- Integrated blocking capacitors (these are space-saving placed inside the controller)
 - "Anti-Spark" circuit (avoids connecting spark)
- Integrated mounting holes (You should not mount controllers with this size and weight on its cables)
- Data logger function: a built-in flash memory stores more than one our up to 20 data sets per second
- Interfaces: Hall-sensor, 2 temperature sensors (e.g. for battery- and motor temperature), mini-USB (not on splash water protected types), 5V-SIO and
 - Built-in LiPoDiMATIC function: Single cell voltage supervision via a Schulze BalCab20 connector.
 - Upgradable and configurable.

• Features xxl:

Big, one-sided cooling heat sink,
CAN bus optional,

the electronic parts are covered by a plastic housing.

| Туре | Current* | Nickel cells | Lithium cells | Size about [mm] | Weight** about [g] | Cable [mm²] | Throttle*** [mOhm] | Brake*** [mOhm] | Switching freq., Timing both | Usage |
|---------------------|----------|-----------------|------------------|--------------------|-----------------------|----------------|-----------------------|--------------------|---------------------------------------|--------------|
| fut-l- 24.150WK | 150/200 | 10-24 | 3-8 | 95+BR*65*21 | 124-156 | 4 * 4.0 | 2 * 0.7 | 0.7 / 3 | automatic | Boat, Car |
| fut-l- 32.115 | 115/150 | 10-32 | 3-10 | 95+B*65*21 | 113-145 | 4 * 4.0 | 2 * 1.0 | 1.0 / 3 | automatic | Fly, Heli |
| fut-l- 32.115WK | 115/150 | 10-32 | 3-10 | 95+BR*65*21 | 124-156 | 4 * 4.0 | 2 * 1.0 | 1.0 / 3 | automatic | Boat, Car |
| fut-l- 40.100 | 100/133 | 10-40 | 3-14 | 95+B*65*21 | 113-133 | 2 * 6.0 | 2 * 1.5 | 1.5 / 3 | automatic | Fly, Heli |
| fut-l- 40.100WK | 100/133 | 10-40 | 3-14 | 95+BR*65*21 | 124-144 | 2 * 6.0 | 2 * 1.5 | 1.5 / 3 | automatic | Boat, Car |
| | | | | | 1 | | | | | |
| fut-xl- 32.200WK | 200/260 | 10-32 | 3-10 | 130+R*73*21 | 189-229 | 4 * 6.0 | 2 * 0.56 | 0.56 / 3 | automatic | Boat, Car |
| fut-xI- 40.160 | 160/210 | 10-40 | 3-14 | 130*73*21 | 167-199 | 4 * 4.0 | 2 * 0.9 | 0.9 / 3 | automatic | Fly, Heli |
| fut-xI- 40.160WK | 160/210 | 10-40 | 3-14 | 130+R*73*21 | 189-221 | 4 * 4.0 | 2 * 0.9 | 0.9 / 3 | automatic | Boat, Car |
| | | | | | | | | | | |

| fut-xxl- 40.300 | 300/400 | 10-40 | 3-14 | 161+B*100*38 | 520-560 | 4 * 6.0 | 2 * 0.75 | 0.75 / 3 | automatic | Fly, Heli |
|----------------------|---------|-------|------|---------------|---------|---------|----------|----------|-----------|-----------|
| fut-xxl- 40.300WK | 300/400 | 10-40 | 3-14 | 161+BR*100*34 | 590-630 | 4 * 6.0 | 2 * 0.75 | 0.75 / 3 | automatic | Boat,Car |

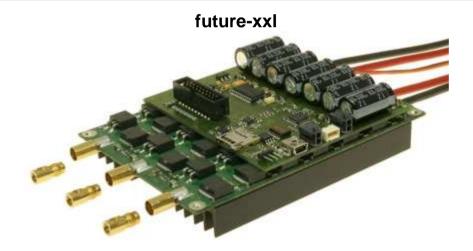
Legend:

- +B = 12mm pp60 motor socket, +R = about 2*19 mm cooling tube,

 * = Duration current at full throttle for about 5 Ah consumption / Short time current for about 15 seconds,

 ** = Weight with/without power leads,

 *** = Typical FET resistance in common.



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