



POSITIVE PROBLEM SOLVING **+** **=**

## WHEN THE TEAM BATH RACING ELECTRIC TEAM APPROACHED ETPS, THEY NEEDED A BATTERY TEST SOLUTION TO STAY AT THE FRONT OF THE PACK.

Team Bath Racing Electric (TBRe) were looking to retain their title as the 'top electric team in the UK'. They were also hoping to power their way to victory in the prestigious Formula Student Electric China, after entering the competition for the first time.

To accelerate development, ETPS provided TBRe with a 60V electronic load. This was used to verify the team's simulations by discharging subpacks of cylindrical cells, ensuring that everything went to plan throughout the building process. We also provided them with a second 500V load. The higher voltage range meant that the team were able to complete battery testing, once their race pack had been fully assembled.

Elizabeth Maclennan, head of TBRe remarked: "Having not one, but two loads lent to us by ETPS during the entirety of the Formula Student Series has been essential. Without both of these DC loads, we wouldn't have been able to consistently test our battery during critical intervals of the development process."

Maclennan added: "ETPS have been an amazing sponsor and incredibly easy to work with. Throughout the whole process, from start to finish, they have been extremely responsive and helpful. With the company's help, we managed to retain our title as top electric team in the UK. We'll definitely look to work with them again next season."

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# CASE STUDY

## TEAM BATH RACING ELECTRIC

### POWERING THE NEXT GENERATION

Producing a fully-functioning, open wheeled, single seater race car that is race-track ready is something that many students could only dream of. The skills and responsibilities that are required in order to create such a work of art requires an array of intricate knowledge, from many different engineering disciplines.

Technical support was available throughout the project, if the team needed any assistance in operating the units. As with all ETPS products, support via phone and email is provided free of cost for the lifetime of the product and not just restricted to the warranty period.

Tom Dormand, Chief Integration Engineer said: "Working with a company that you know you can rely on is always reassuring."

"We didn't have to worry about any major obstacles during the battery's test schedule, as we knew that ETPS would be on hand if needed."

As well as retaining their title as top electric team in the UK, TBRe also finished 17th overall at Formula Student UK. This was a huge achievement given the vast amount of teams that compete each year.

Engineering such a well tuned electrical machine is a key extra curricular activity. It gives the students real world experience of working with low carbon vehicle technologies within their chosen engineering pathways.

Hands on experience is often expected by modern employers. So the project drastically increased employability for all the team members involved.

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### ABOUT THE ELP-3310F

The ELP-3310F is a series of dynamic DC load modules which offer an incredible degree of functionality. The modules simply slide into a mainframe, which can be swapped as required. This makes reconfiguring test systems simple to meet changing requirements.

As the units can be set to turn on or off at a pre-set voltage level, it makes them ideal for discharging batteries. Within this range of DC electronic loads, nominal voltages are possible from 60V all the way up to 500V.

Each module features CC, CR, CV, CP modes as standard. On request, all mainframes can be fitted with RS-232, LAN, USB or GPIB interface cards.

Load currents can be viewed graphically, by connecting a scope to the BNC connector on the front panel of the load.

During the off season, both the loads used by TRBe are available for general rental. We also keep a number of other loads within our rental stock. These cover a wide variety of applications including: battery discharge tests, BMS testing, fuel cell loading and testing the MPPT output of renewable converters.

Besides DC electronic loads, our rental selection also includes a variety of DC & AC sources, bidirectional test systems, AC electronic loads, as well as high voltage PSUs.

ETPS also provide a selection of new sinks and sources, which cover virtually all voltage, current and power requirements.

If you'd like to discuss how a programmable power system could accelerate your testing, then please contact ETPS today.

