

RACECARD

2019 JULIUS BAER SWISS E-PRIX



**SATURDAY,
JUNE 22 2019**

JULIUS BAER
SWISS E-PRIX

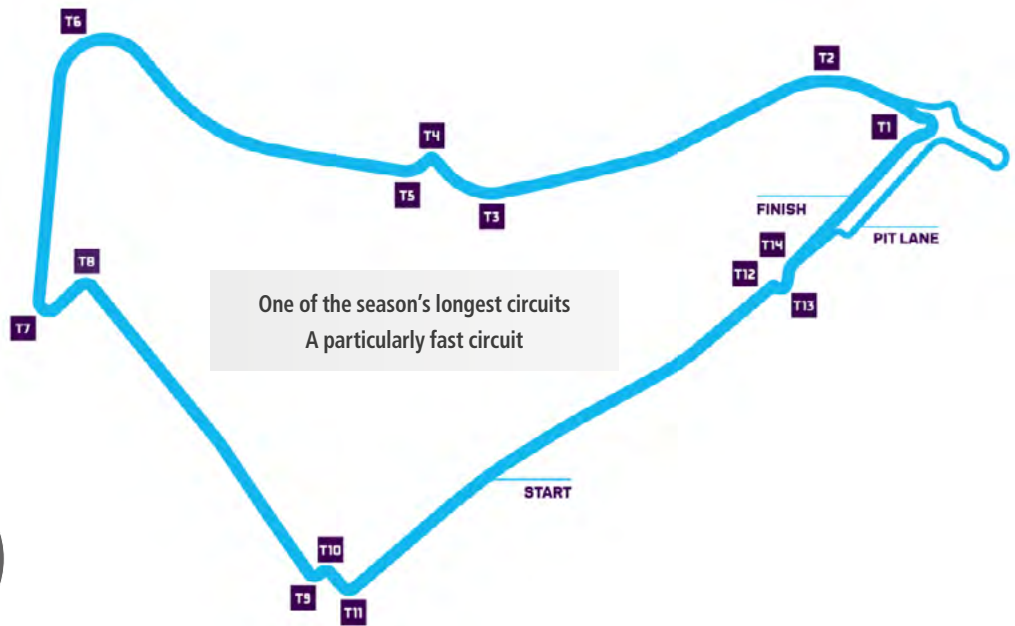
ROUND 11
2018/2019 FIA
ABB FORMULA E
CHAMPIONSHIP

1ST RUNNING

BERN
SWITZERLAND



THE CIRCUIT



2.663
KM

14
TURNS

ANTICLOCKWISE



TIMETABLE

SATURDAY, JUNE 22

8:55am	45 minutes	Free Practice 1
11:20am	30 minutes	Free Practice 2
1:30pm	36 minutes	Qualifying
2:15pm	20 minutes	Super Pole
6:03pm	45 minutes+1 lap	Swiss E-Prix

LOCAL TIME



THE SWISS E-PRIX AND MOTORSPORT

» The Swiss E-Prix is the last European round of the 2018/2019 championship

» Switzerland's inaugural e-prix was hosted by Zürich in 2018

» The Zürich E-Prix in 2018 was the first circuit race to be held in Switzerland since the tragic 1955 Le Mans 24 Hours

» Six Formula 1 Swiss Grands Prix were organised between 1950 and 1982 (five in Bremgarten, near Bern, and one at Dijon, France)

» Switzerland's Sébastien Buemi is a former Formula E Champion and the reigning World Endurance Champion (with Toyota)

THE SWISS E-PRIX AND RENEWABLE ENERGY

» Renewable energy accounted for 68% of Switzerland's energy mix in 2017, including 60% from hydro-electric generators

» Electric vehicles account for 1% of Switzerland's passenger car mix (19,181 cars in 2018)

» Electric cars will be requested to make a sound in Switzerland from mid-2019 and will be equipped with loudspeakers

» The E-Grand Tour enables some 1,600km to be driven in Switzerland thanks to 300 battery-charging stations

» The Piëch Mark Zero is an electric sports car made in Zürich. It was revealed at this year's Geneva Motor Show



BERN

» Bern is Switzerland's capital and home of both the federal government and parliament

» Bern is Switzerland's fifth-biggest city and sits on the River Aare

» The old town of German-speaking Bern is UNESCO-listed

» Albert Einstein lived in Bern where there is a museum in his honour

» The annual Bern Grand Prix is a running race that attracts more than 30,000 participants

» The Swiss Confederation comprises 26 cantons. Bern is the country's second most populated canton (population: 1,000,000)



MICHELIN GREEN GUIDE

Discover Switzerland's many different facets with the Michelin Green Guide Switzerland



SERGE GRISIN

Formula E Programme Manager, Michelin Motorsport

"BERN IS ONE OF THE LONGEST TRACKS WE VISIT THIS SEASON"

"Bern is one of the longest tracks we visit this season, and perhaps also one of the fastest. It is hilly, features some very technical chicanes and is situated in a more bucolic setting than we are used to because it runs along the banks of the River Aare and next to a big park."

MICHELIN AND THE 2019 BERN E-PRIX

TECHNICAL DATA

MICHELIN PILOT SPORT

FRONT: 245/40R18
REAR: 305/40R18

Developed specifically for the FIA Formula E Championship

The first 18-inch single-seater racing tyre

The first single-seater racing tyre capable of competing in dry and wet conditions

The first tyre capable of lasting the full race distance



Size (front/rear)	24/64-18 / 27/68-18
Width (front/rear)	245mm / 305mm
Tread width (front/rear)	240mm / 270mm
Side wall height (front/rear)	98mm / 122mm (i.e. 40 percent of tread width)
Rim diameter	18 inches
Weight (front/rear)	8kg / 9.9kg
Type of tread pattern	Asymmetric, non-directional
Usage	Circuits, street circuits, asphalt, concrete, wet or dry weather
Number of tyres taken to each race	176 (22 cars x 8 tyres)
Weight saving (compared with the MICHELIN Pilot Sport EV)	Front: 2kg Rear: 2.5kg



MICHELIN PILOT SPORT

THE REVOLUTIONARY NEW
MICHELIN PILOT SPORT:
LIGHTER AND MORE ENERGY-
EFFICIENT THAN EVER

A REVOLUTIONARY RACING TYRE, IN MORE WAYS THAN ONE!

Developed specifically for the world's first all-electric single-seater motor racing championship, the new MICHELIN Pilot Sport is an exceptionally versatile tyre that was designed by Michelin Motorsport's engineers to cover the entire race day (free practice, qualifying, race), whatever the weather, as required by the technical regulations that govern the series.

Another exceptional characteristic of the tyre is its size. The MICHELIN Pilot Sport was effectively the first ever single-seater tyre to feature an interior diameter of 18 inches, a disruptive concept put forward by Michelin Motorsport and approved by the FIA (Fédération Internationale Automobile). The fact that 18-inch wheels have become a common

feature of road cars enables Michelin Motorsport's engineers and chemists to **carry over the lessons they learn on the racetrack to everyday tyres, in keeping with the firm's 'track to street' policy.**

The MICHELIN Pilot Sport (front: 245/40 R 18 / rear: 305/40 R 18) is tall and narrow in the interests of energy efficiency, which equates to longer range. Its low sidewalls also flex less, resulting in the generation of less heat, which **in turn means reduced energy consumption**, a valuable benefit for Formula E's latest-generation 'Gen2' Spark SRT 05Es.

The MICHELIN Pilot Sport is a connected tyre, too, thanks to an embedded RFID chip which facilitates tracking, from production through to recycling.



MICHELIN PILOT SPORT: THE WINNING TYRE RANGE



FRONT

Size

24/64-18 equivalent to 245/40R18

Side wall height

40% - 98mm



Usage

Wet or dry weather

Type of tread pattern

Asymmetric, non-directional

Rim diameter

18 inches



REAR

Size

27/68-18 equivalent to 305/40R18

Side wall height

40% - 122mm



ENTRY LIST 2019 BERN E-PRIX

ENVISION VIRGIN RACING AUDI E-TRON FE05



N°2 SAM BIRD (GBR)

Victory: 8 Fastest race laps: 5
Pole position: 5 Podium: 17



N°4 ROBIN FRIJNS (NLD)

Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 3

PANASONIC JAGUAR RACING JAGUAR I – TYPE III



N°3 ALEX LYNN (GBR)

Victory: 0 Fastest race laps: 0
Pole position: 1 Podium: 0



N°20 MITCH EVANS (NZL)

Victory: 1 Fastest race laps: 1
Pole position: 1 Podium: 2

HWA RACELAB VENTURI VFE05

ROOKIE



N°5 STOFFEL VANDOORNE (BEL)

Victory: 0 Fastest race laps: 0
Pole position: 1 Podium: 1

ROOKIE



N°17 GARY PAFFETT (GBR)

Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 0

GEOX DRAGON PENSKE EV-3



N°6 MAX GÜNTHER (DEU)

Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 0



N°7 JOSE-MARIA LÓPEZ (ARG)

Victory: 0 Fastest race laps: 1
Pole position: 0 Podium: 2

NIO FORMULA E TEAM NIO SPORT 004



N°8 TOM DILLMANN (FRA)

Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 0



N°16 OLIVER TURVEY (GBR)

Victoires : 0 Fastest race laps: 0
Pole position: 1 Podium: 1

VENTURI FORMULA E TEAM VENTURI FVE05

ROOKIE



N°19 FELIPE MASSA (BRA)

Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 1



N°48 EDOARDO MORTARA (CHE)

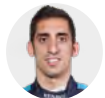
Victory: 1 Fastest race laps: 0
Pole position: 0 Podium: 3

NISSAN E.DAMS NISSAN IM01



N°22 OLIVER ROWLAND (GBR)

Victory: 0 Fastest race laps: 0
Pole position: 3 Podium: 2



N°23 SÉBASTIEN BUEMI (CHE)

Victory: 12 Fastest race laps: 9
Pole position: 13 Podium: 22

DS TECHEETAH DS E-TENSE FE19



N°25 JEAN-ERIC VERGNE (FRA)

Victory: 7 Fastest race laps: 3
Pole position: 8 Podium: 19



N°36 ANDRÉ LOTTERER (DEU)

Victory: 0 Fastest race laps: 3
Pole position: 1 Podium: 3

BMW I ANDRETTI MOTORSPORT BMW IFE.18

ROOKIE



N°27 ALEXANDER SIMS (GBR)

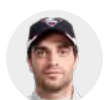
Victory: 0 Fastest race laps: 0
Pole position: 0 Podium: 0



N°28 ANTONIO FELIX DA COSTA (PRT)

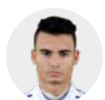
Victory: 2 Fastest race laps: 0
Pole position: 1 Podium: 4

MAHINDRA RACING MAHINDRA M5ELECTRO



N°64 JÉRÔME D'AMBROSIO (BEL)

Victory: 3 Fastest race laps: 1
Pole position: 2 Podium: 9



ROOKIE

N°94 PASCAL WEHRLEIN (DEU)

Victory: 0 Fastest race laps: 2
Pole position: 0 Podium: 1

AUDI SPORT ABT SCHAEFFLER FORMULA E TEAM AUDI E-TRON FE05



N°11 LUCAS DI GRASSI (BRA)

Victory: 10 Fastest race laps: 5
Pole position: 3 Podium: 30



N°66 DANIEL ABT (DEU)

Victoire : 2 Fastest race laps: 6
Pole position: 2 Podium: 9




FIA FORMULA E

DRIVERS STANDINGS

															TOT.
		SAU 15/12	MAR 12/01	CHL 26/01	MEX 16/02	HKG 10/03	CHN 23/03	ITA 13/04	FRA 27/04	MCO 11/05	DEU 25/05	CHE 22/06	USA 13/07	USA 14/07	
1	 25 J.E. VERGNE (FRA) DS TECHEETAH FORMULA E TEAM	18	10	0	0	0	26	0	8	25	15	-	-	-	102
2	 11 L. DI GRASSI (BRA) AUDI SPORT ABT SCHAEFFLER	2	7	0	25	18	0	6	12	0	26	-	-	-	96
3	 36 A. LOTTERER (DEU) DS TECHEETAH FORMULA E TEAM	11	8	0	10	0	12	21	18	6	0	-	-	-	86
4	 28 A. DA COSTA (PRT) BMW I ANDRETTI MOTORSPORT	28	0	0	18	1	15	2	6	0	12	-	-	-	82
5	 4 R. FRIJNS (NLD) ENVISION VIRGIN RACING	0	18	10	0	15	0	12	26	0	0	-	-	-	81
6	 20 M. EVANS (GBR) PANASONIC JAGUAR RACING	12	2	8	6	6	2	25	0	8	0	-	-	-	69
7	 66 D. ABT (DEU) AUDI SPORT ABT SCHAEFFLER	4	1	16	1	12	10	0	15	0	8	-	-	-	67
8	 64 J. D'AMBROSIO (BEL) MAHINDRA RACING	15	25	1	12	0	8	4	0	0	0	-	-	-	65
9	 22 O. ROWLAND (GBR) NISSAN E.DAMS	6	0	0	0	0	21	8	3	21	4	-	-	-	63
10	 23 S. BUEMI (CHE) NISSAN E.DAMS	8	4	3	0	0	4	11	0	10	21	-	-	-	61
11	 2 S. BIRD (GBR) ENVISION VIRGIN RACING	0	18	25	2	9	0	0	0	0	2	-	-	-	56
12	 48 E. MORTARA (CHE) VENTURI FORMULA E TEAM	0	0	12	15	25	0	0	0	0	0	-	-	-	52
13	 94 P. WEHRLEIN (DEU) MAHINDRA RACING	-	0	18	12	0	6	1	1	13	1	-	-	-	52
14	19 F. MASSA (BRA) VENTURI FORMULA E TEAM	0	0	0	4	10	1	0	2	15	0	-	-	-	32
15	5 S. VANDOORNE (BEL) HWA RACELAB	0	0	0	0	3	0	15	0	2	10	-	-	-	30
16	27 A. SIMS (GBR) BMW I ANDRETTI MOTORSPORT	0	12	6	0	0	0	0	0	0	6	-	-	-	24
17	6 M. GÜNTHER (DEU) GEOX DRAGON	0	0	0	-	-	-	0	10	0	0	-	-	-	10
18	17 G. PAFFETT (GBR) HWA RACELAB	0	0	0	0	4	0	0	4	0	0	-	-	-	8
19	16 O. TURVEY (GBR) NIO FORMULA E TEAM	0	0	4	0	2	0	0	0	0	0	-	-	-	6
20	3 A. LYNN (GBR) PANASONIC JAGUAR RACING	-	-	-	-	-	-	0	0	4	0	-	-	-	4
21	7 J.M. LÓPEZ (ARG) GEOX DRAGON	0	0	2	0	0	0	0	0	1	0	-	-	-	3
22	3 N. PIQUET JR. (BRA) PANASONIC JAGUAR RACING	1	0	0	0	0	0	-	-	-	0	-	-	-	1
23	8 T. DILLMANN (FRA) NIO FORMULA E TEAM	0	0	0	0	0	0	0	0	0	0	-	-	-	0
24	6 F. NASR (BRA) GEOX DRAGON	-	-	-	0	0	0	-	-	-	-	-	-	-	0
25	94 F. ROSENQVIST (SWE) MAHINDRA RACING	0	-	-	-	-	-	-	-	-	-	-	-	-	0

FIA FORMULA E

TEAMS STANDINGS

		 SAU 15/12	 MAR 12/01	 CHL 26/01	 MEX 16/02	 HKG 10/03	 CHN 23/03	 ITA 13/04	 FRA 27/04	 MCO 11/05	 DEU 25/05	 CHE 22/06	 USA 13/07	 USA 14/07	TOT.
1	● DS TECHEETAH FORMULA E TEAM (CHN)	29	18	0	10	0	38	21	26	31	15	-	-	-	188
2	▲ AUDI SPORT ABT SCHAEFFLER (DEU)	6	8	16	26	30	10	6	27	0	34	-	-	-	163
3	▼ ENVISION VIRGIN RACING (GBR)	0	36	35	2	24	0	12	26	0	2	-	-	-	137
4	▲ NISSAN E.DAMS (JPN)	14	4	3	0	0	25	19	3	31	25	-	-	-	124
5	▼ MAHINDRA RACING (IND)	15	25	19	24	0	14	5	1	13	1	-	-	-	117
6	● BMW I ANDRETTI MOTORSPORT (USA)	28	12	6	18	1	15	2	6	0	18	-	-	-	106
7	● VENTURI FORMULA E TEAM (MCO)	0	0	12	19	35	1	0	2	15	0	-	-	-	84
8	● PANASONIC JAGUAR RACING (GBR)	13	2	8	6	6	2	25	0	12	0	-	-	-	74
9	● HWA RACELAB (DEU)	0	0	0	0	7	0	15	4	2	10	-	-	-	38
10	● GEOX DRAGON (USA)	0	0	2	0	0	0	0	10	1	0	-	-	-	13
11	● NIO FORMULA E TEAM (GBR)	0	0	4	0	2	0	0	0	0	0	-	-	-	6

REGULATIONS

2018/2019 ABB FIA FORMULA E CHAMPIONSHIP

CARS (SINGLE-SEATERS)

- » **Spark STR-05e / chassis:** Dallara / battery: McLaren Applied Technologies
- » **Maximum length:** 5,200mm,
- » **Maximum width:** 1,800mm,
- » **Maximum height:** 1,250mm
- » **Minimum weight:** 900kg, including driver and battery/capacitor (385kg)
- » **Maximum power, electric powertrain:** 250kW (335hp) for free practice and qualifying, 200kW (270hp) during races.
- » 2 MGUs can be used
- » **Allocation per race number:** 2 electric motors, 2 gearboxes, 2 inverters and 1 battery pack for the season

TYRES

- » A single type of tyre (pattern and construction)
- » No mid-race tyre changes
- » 4 new front tyres and 4 new rear tyres per driver per event
- » Can be inflated using air only
- » Minimum tyre pressure: 1.3 & 1.6 bar (measured at the end of races)
- » Tyre warmers not authorised

EVENT FORMATS

- » A **Shakedown** session of a maximum duration of 30 minutes may be organised the day before the race. Power is restricted to 110kW. A maximum of six laps per car
- » **Practice:** Two practice sessions (45 and 30 minutes) in the course of the morning of Race Day. Maximum power: 250kW
- » **Qualifying:** The drivers are divided into four

groups as a function of their championship positions (or of the previous championship order in the case of the season's first race). Each driver has six minutes and up to two flying laps to post a qualifying time. The six fastest drivers go on to take part in the Super Pole shootout. Maximum power: 250kW

- » **Super Pole:** Start order is based on the times posted in qualifying, with the 'slowest driver' to lap first, etc. One flying lap only
- » **Grid:** The six places at the front of the grid are reserved for the drivers who take part in the Super Pole session
- » **Race:** Standing start. Maximum duration: 45 minutes + 1 lap. Use of two power outputs mandatory: Normal Mode (200kW / regeneration: 250kW) and Attack Mode (225 kW / regeneration: 250kW) which must be activated twice per race, for a period of four minutes. The car's halo head protection device lights up (Blue) when the Attack Mode is activated
- » **Attack Mode:** For the 2018/2019 season, drivers have two power options during the race: Normal Mode (200kW) and Attack Mode (225kW). Attack Mode must be activated twice per race. To trigger it, the driver must run off the ideal racing line through the corner specified for this purpose by the race organiser, a little like in Mario Kart. Attack Mode is activated for four minutes. The car's halo head protection device lights up when it is activated
- » **FanBoost:** A temporary 100kJ power boost (240kW-250kW) for five drivers chosen by a fan vote. To be activated once when in Attack Mode. The car's halo head protection device lights up (Magenta)



POINTS-SCORING SYSTEM RACE

1st: 25 points / 2nd: 18 points / 3rd: 15 points
 4th: 12 points / 5th: 10 points / 6th: 8 points
 7th: 6 points / 8th: 4 points / 9th: 2 points
 10th: 1 point
POLE POSITION 3 points
FASTEST RACE LAP 1 point
 (if a top-10 finisher)

