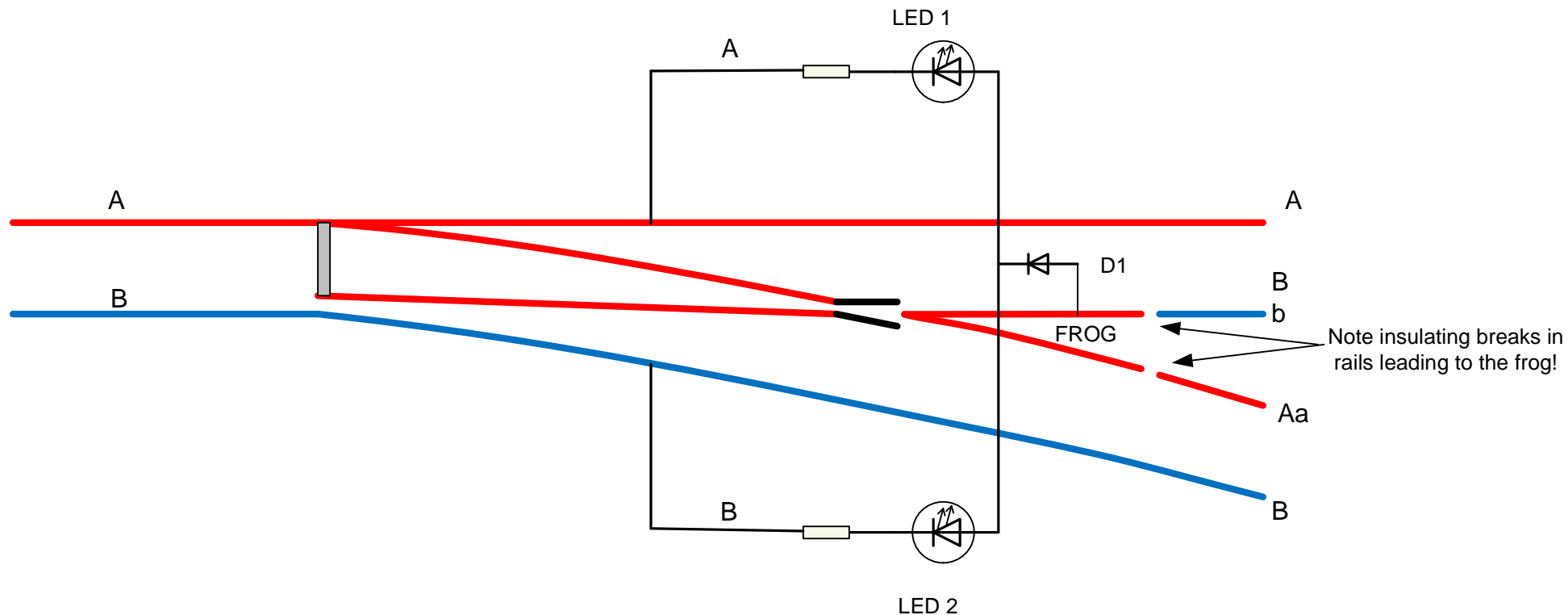


Operation. For DCC only

1 The switch mounted on the point motor connects the frog to the appropriate rail; in the position shown the frog is connected to the A rail so it has the same voltage so powering the train to proceed

2 The LED s will indicate which way the track is set. For the point set as shown the frog voltage is as rail A so LED1 will be off and LED 2 will be on

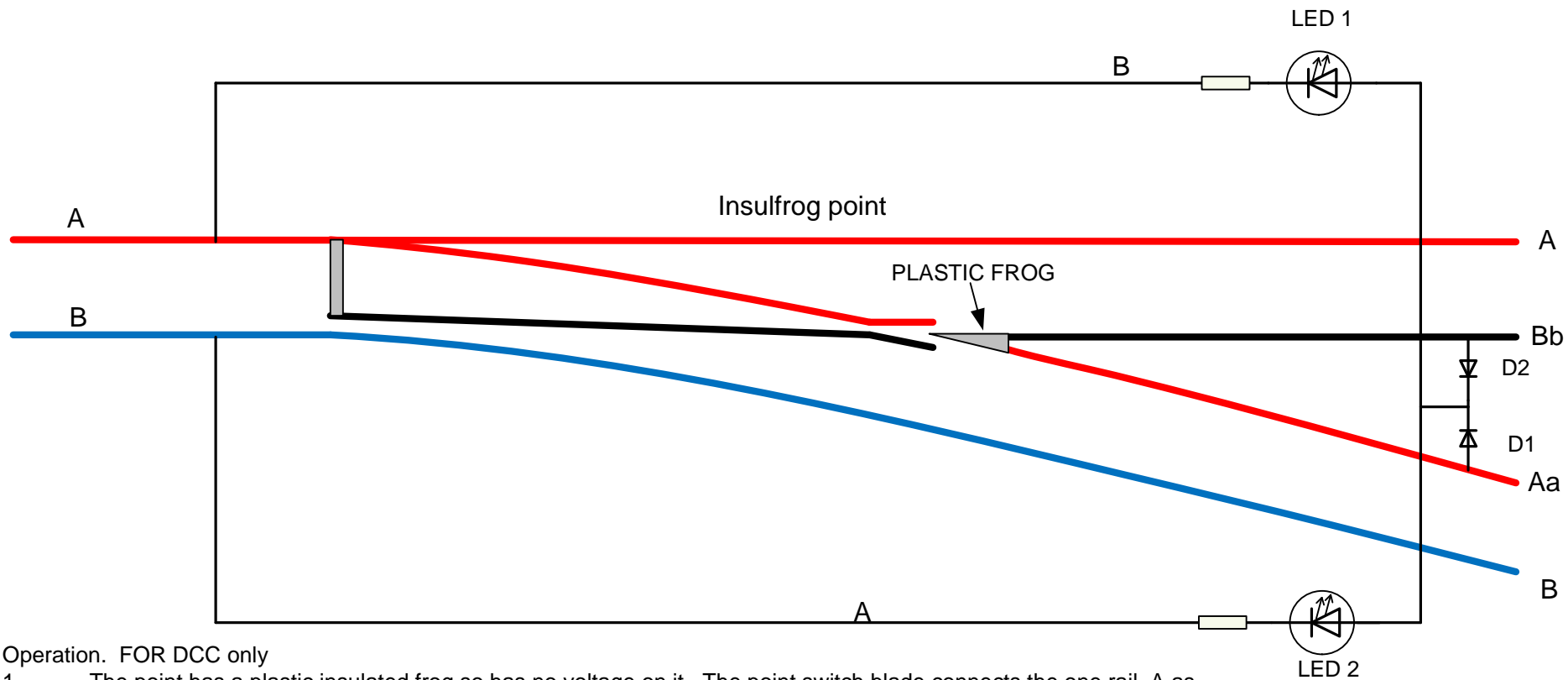
3 The Diode D1 type 1N4148 or similar will block reverse voltage on the LEDs



Operation. FOR DCC only

- 1 The polarity of the frog is determined by which way the point is set, in the position shown the frog is connected to the A rail so it has the same voltage so supplying power to the train enabling it to proceed
- 2 The LED s will indicate which way the track is set. For the point set as shown the frog voltage is as rail A potential so LED1 will be off and LED 2 will be on
- 3 The Diode D1 type 1N4148 will support the reverse voltage when rail B goes positive with respect to Rail A

TANNER-TREMAINE'S Engineering Services	Control of Route indication using single LEDs Using ELECTOFROG points WITHOUT point mounted switch	Client		Revision	01
		Drawing No	CTT-MR-E-022-2	Date	22.Oct 13



Operation. FOR DCC only

- 1 The point has a plastic insulated frog so has no voltage on it. The point switch blade connects the one rail, A as shown above and this is connected via underneath connections to the outgoing rail, called Aa so it has the same voltage and supplies power to the train enabling it to proceed through the point.
- 2 With the point shown thrown the train will leave the main line and so LED2 is to light up.. Now track Aa is effectively connected to rail A so Diode D1 will pass current from Rail A when on the positive half wave to the anode of LED2, whose cathode is connected to the B rail it will pass the current and light up.
- 3 LED1 will be off as its cathode is connected to the A rail and its anode is connected to the Aa rail via D1 which is at the same potential.
- 4 When the point is closed the other diode D2 comes into action and the LEDs are switched over, LED1 now being energised and indicating that the point is closed .
- 5 When Rail A is on the negative half wave both diode D1 and LED2 are reverse biased so no current flows, both LEDs are off
- 6 Not suitable for DC as the polarity is determined by the direction of travel of the loco, which is reversible and rail voltage which is variable from 0 to max depending on the train speed.