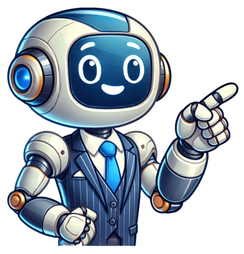
I'm not robot



Introduction The Infusomat P manual contains important information on servicing, repair, and safety inspections. **Table of Contents** * Important Information (Pages 0-5) + Technical Safety Inspections + Current Versions + Revision Service + Non-Liability + ISO 9000 ff/EN 46 000 ff * Repair and Inspection (Pages 0-6) + Only trained technicians should perform repair and inspection + Spare parts and test equipment required * Technical Training (Page 0-7) + Entry for product training + Ordering spare parts and test equipment + Return of spare parts + Service hotline and safety officer information **System Overview** * Design (Pages 1-1 to 1-5) + Operation flow chart + Function, voltage supply, signal table, mains operation, battery operation, alarm circuit, pump unit, computer interface, and Braun fluid manager system (fm system) explained * Accessories and Software (Page 1-10) + Accessories required for the Infusomat P + Software update information **Service Program** * Structure of the Service Program (Page 3-1) + Additional functions with inserted service plug + Start/quit the service program + Unit data and history data explained * Test and Calibration (Pages 3-5 to 3-10) + Test procedure for the Infusomat P + Calibration procedures **Technical Safety Inspection** * Procedure for inspection (Page 7-1) + Visual inspection, electrical safety inspection, functional inspection, and pump unit inspection explained * Test Equipment and Special Tools (Page 8-1) + Required test equipment and special tools for the Infusomat P Page Index Unit Elements Colours Miscellaneous Page Accessories Software Update Appendix ESD Recommendations Revision Service-Documentation Current Information Order Form 0 - 4 Infusomat P 2.0GB Important Notes: This manual does not permit the execution of service tasks without proper authorization and training from B. Braun. Authorized personnel must possess necessary test equipment, mechanical aids, and fulfill personal requirements to perform maintenance and repairs safely. The manual is a reference for measurements, but may lead to dangerous unit conditions if not followed correctly. Technical changes, especially software updates, are expected and the revision state is indicated on the title page. To participate in the revision service, one must undergo technical training by B. Braun or receive a written order from the sales department. Infusomat P 2.0gb System Overview A catalogue for general information regarding the Infusomat P 2.0gb system. The Infusomat P 2.0gb System can be powered through various methods, including the fluid manager system, MFC connector (11 to 16 V), and internal 7.2 V NiCD battery. The mains module is available in several versions, including 230 V, 220 / 230 / 240 V, and 100 / 110 / 120 V. The rated voltage has a tolerance of + 10% to – 15 %. The FET V10 switches between external and internal voltage supply, while the transistor V10b works as an ON/ OFF switch for operating voltages UBS, UMOT, and +5V. The +5V supplies the electronics, including the double channel microprocessor system. A window comparator monitors the +5V for undervoltage or overvoltage. The operating voltage UBS powers the stepper motor and UMOT, while the transistor V47 switches the operating voltage UMOT. In case of an alarm, the motor is switched off by V47. The circuit has two separate assembly groups with separate supply voltages UBA and UBB. The ON/OFF circuit features a retriggerable delay switch-off. The follow-up charging circuit drives the transistor V10b, while the alarm logic (operating voltage UBB) is an RS latch set when the unit is running. The alarm buzzer and drive are also driven by UBB. The ON/OFF circuit is activated by pressing the ON/OFF key, which resets the alarm latch simultaneously. The function test of the voltage monitoring, motor circuit, and alarm activation is performed using cyclic self-hold-ing pulses fed to the logic. The alarm latch is also activated. TD-R/W Text Display Read/Write LFCL Air Sensor Clock TD4 Text Display Data 4 LFDA Air Sensor Data TD5 Text Display Data 5 LFS Air Sensor Signal TD6 Text Display Data 6 LFSEL Air Sensor Selection TD7 Text Display Data 7 MISO Serial Data Output Interface TSCL Drop Sensor Clock MOSI Serial Data Input Interface TSE Drop Sensor Receiver System Overview: Motors ON, TSR regulation, MS motor control. P-ENA Port Enable Tx Transmit Data PH0 Phase 0 UBA, UBB Supply Voltage for Alarm, On/Off Logic, RTC PH1 Phase 1 UBS Switched Operating Voltage UB PH2 Phase 2 UBS-M UBS Measurement Line PH3 Phase 3 UMOT Supply Voltage of Motor Drive PKS Pump Cover Sensor UMOT-M UMOT Measurement Line PKS1 Pump Head Sensor 1 URTC Supply Voltage Clock Module Table 1 - 1 Signal The Infusomat P's performance is determined by the PKS2 signal, enabling motor acceleration during withdrawal. This results in a nearly pulse-free flow in the lower delivery range (