



J2 and J3 are connected to step-up DC/DC converter (5V->36V),  
for example Y4169, or XL6019, or XL6009.  
J2 connected to input of step-up module.  
J3 connected to the output (+36V) of step-up module.

Q1-Q3: KT315(Б.Л.И), BC337, BC817  
Q4: KT814(Б.В.Г), BD136, BC327, BC807  
D1,D2: КД522Б, 1N4448

M-Bus interface based on circuit contributed by Tomas Menzl in 2012  
(<https://github.com/rscada/libmbus/tree/master/hardware>),  
based on original M-Bus master circuit designed by UNI Paderborn in 1991  
(<https://m-bus.com/assets/downloads/m-bus-additional-materials.zip> - minimaster.tif)

**Taras Greben**

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File: mbus-esp.kicad\_sch

**Title: M-Bus to WiFi interface**

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