

# CERTIFICATE

Mr. Jacek Zart  
born on 13.06.1965  
in Pila

has attended the seminar

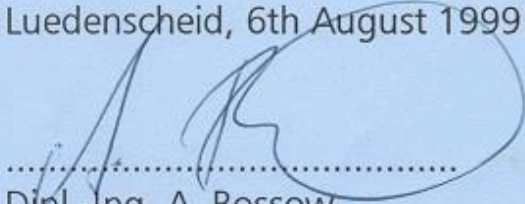
## European Installation Bus EIB Projecting and Commissioning


- Installation bus technology
- System functions
- Installation bus topology, hierarchy
- Addressing mode, telegram
- Installation bus devices
- Planning the Installation Bus EIB
- Engineering with EIB Tool Software ETS2
- Projecting examples of applications as lighting, heating/ventilation displaying + indication/controlling/security
- Commissioning of examples of applications with Line Couplers
- Diagnosis and test of EIB-functions
- Error analyzis
- EIB Powerline, functions and practical application

at DIAL – Deutsches Institut für Angewandte Lichttechnik  
from August, 2nd to 6th, 1999 (40 lessons)

and has successfully passed the final examination consisting of a theoretical and a practical part according to the EIBA rules.

Luedenscheid, 6th August 1999

  
.....  
Dipl.-Ing. A. Bossow  
(Training Manager)

  
.....  
Dipl.-Ing. J. Waldmann  
(EIB Trainer)