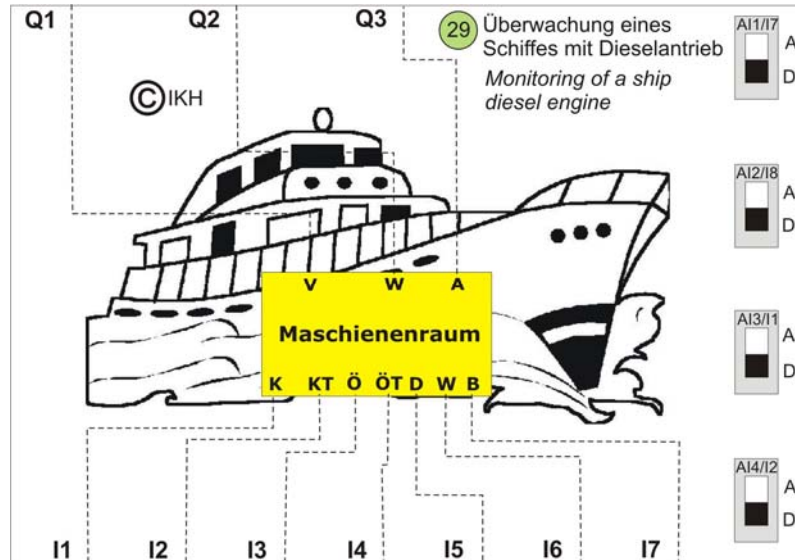


## Monitoring of a ship with Diesel engine with LOGO!Learn

Learning card: Monitoring of a ship with diesel engine



### Operating description

A ship with a Diesel engine can run without engineers. The captain has to be informed of any danger regarding the engine. In extreme cases the engine has to stop automatically.

**In case of the following defects starting the engine is prohibited!  
The engine should not be started under the following conditions:**

- lack for cooling water or (K)
- not enough water in the engine's cooling system (W)
- battery voltage too low (B)

**In case of the following defects the captain is warned via a pilot lamp:**

- oil temperature too high (ÖT)
- not enough Diesel fuel or (D)
- temperature of cooling water too high (KT)

**In case of the following defects the engine must be stopped:**

- cooling temperature too high and oil temperature too high or (KT) (ÖT)
- lack of engine oil (Ö)

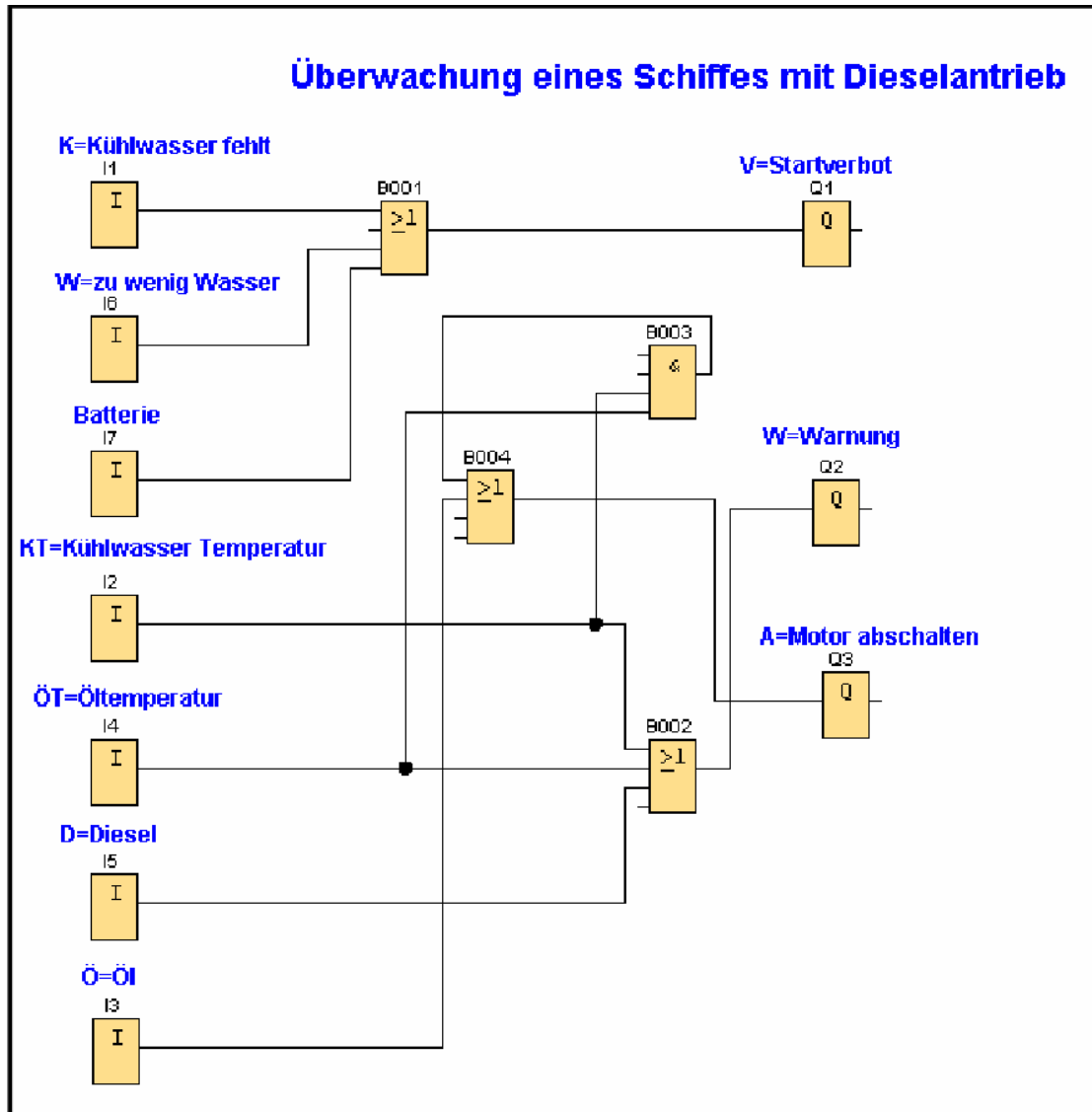
Correlation list		
Symbol	absolute	Comment
I1	K	Lack of cooling water
I2	KT	Cooling temp. too high
I3	Ö	Lack of engine oil
I4	ÖT	Oil temperature too high
I5	D	Not enough Diesel
I6	W	Not enough water
I7	B	Battery voltage too low
Q1	V	Start prohibited
Q2	W	Warning
Q3	A	Stop engine

## Exercise

Solution field 1 shows a suggested solution.

- Enter program according to function block diagram (solution field 1) into the programming unit (i.e. PC or keyboard) and transfer into LOGO!
- 
- Test program
  
- Transfer the solution „FBD“ as „LAD“ (ladder diagram) into solution field 2.
  
- Enter program according to LAD (solution field 2) into the programming unit (i.e. PC or keyboard) and transfer into LOGO!
  
- Test program

## Solution field 1 (suggested solution)



Solution field 2 (ladder diagram)

