



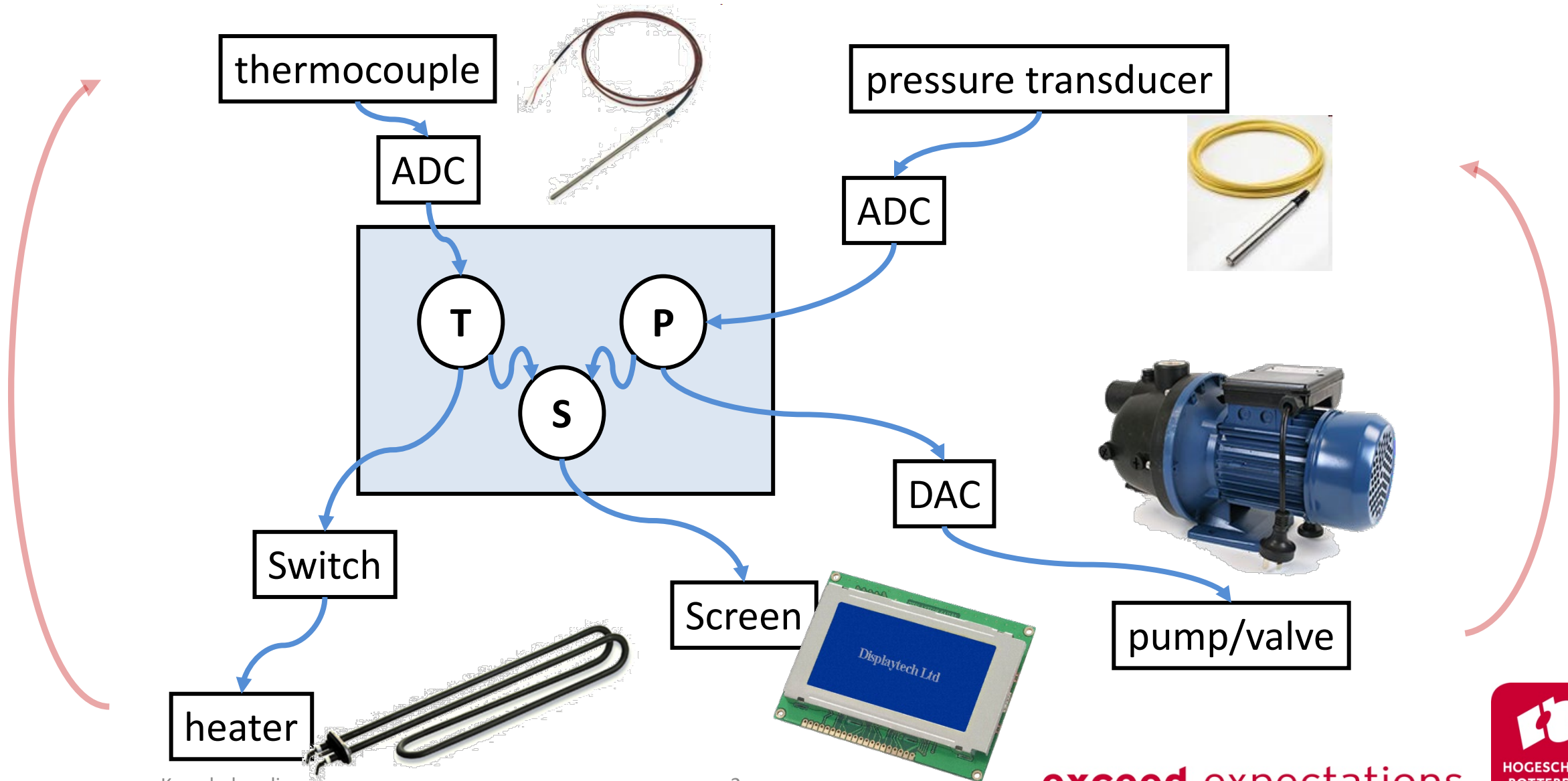
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Knowledge Clip

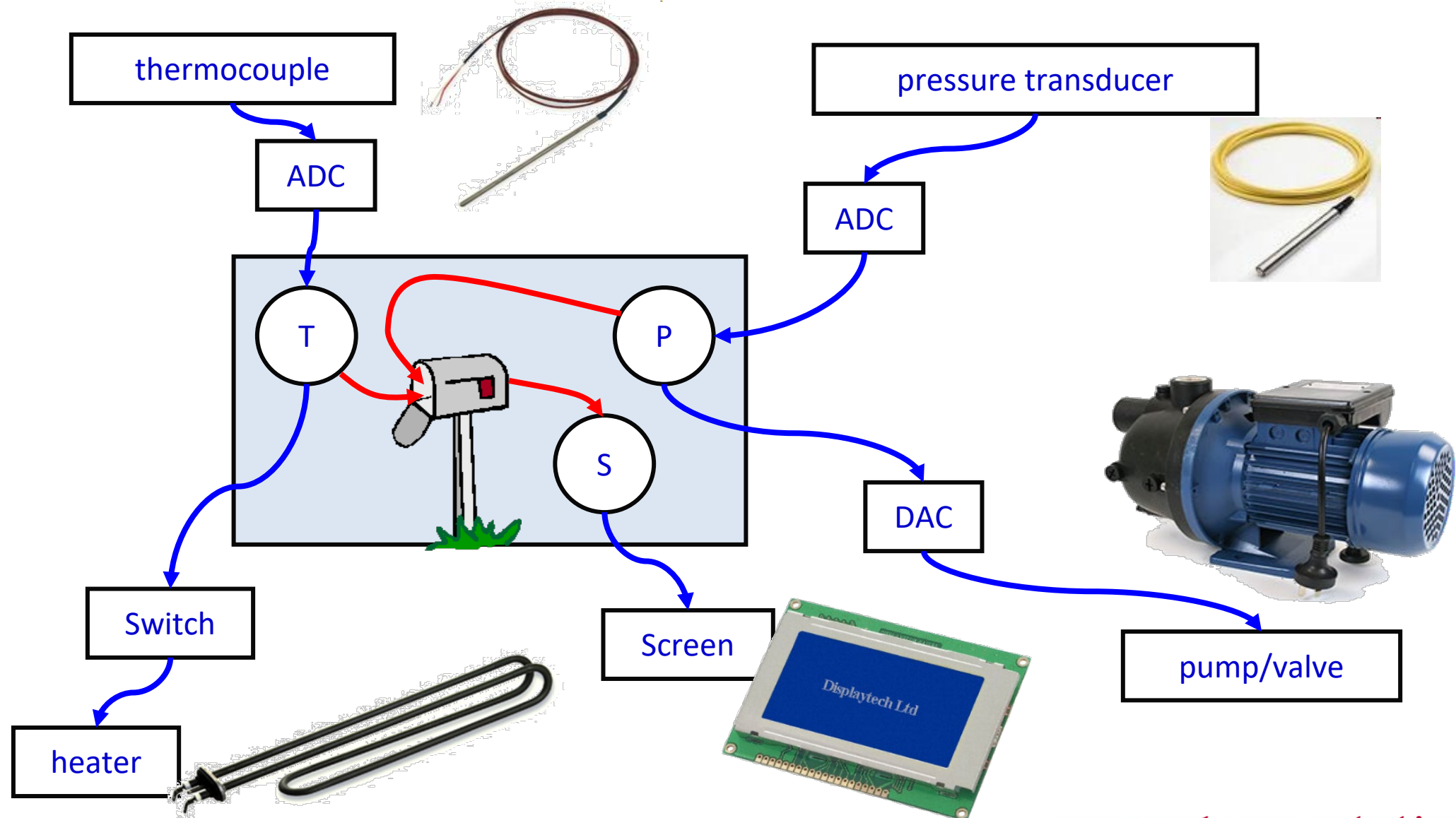
Embedded Systems

pthread
Message Queue

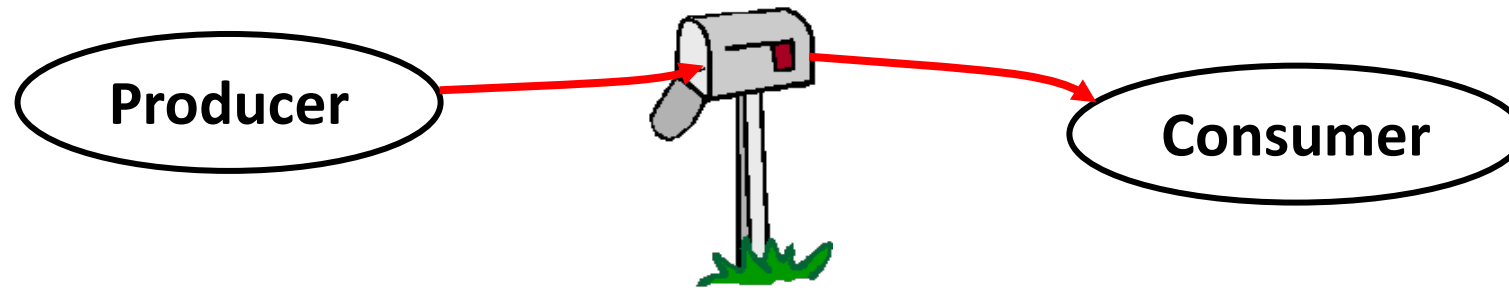
Example Embedded System



Communication between Threads



Message Queue Example



Message Queue Example (1 of 2)

```
void *main_thread(void *arg)
{
    mqd_t mqdes;
    mq_attr mqAttrs;
    mqAttrs.mq_maxmsg = 3;
    mqAttrs.mq_msgsize = sizeof(int);
    mqAttrs.mq_flags = 0;
    mqdes = mq_open("ints", O_RDWR | O_CREAT, 0666, &mqAttrs);

    pthread_t tp, tc;
    pthread_attr_t attr;
    pthread_attr_init(&attr);
    pthread_attr_setstacksize(&attr, 1024);
    pthread_create(&tp, &attr, &producer, &mqdes);
    pthread_create(&tc, &attr, &consumer, &mqdes);
}
```

Message Queue Example (2 of 2)

```
void *producer(void *p) {
    mqd_t mq = *(mqd_t *)p;
    for (int i = 0; i < 10; i++) {
        mq_send(mq, (char *)&i, sizeof(i), 0);
    }
    return NULL;
}

void *consumer(void *p) {
    mqd_t mq = *(mqd_t *)p;
    for (int i = 0; i < 10; i++) {
        int msg;
        mq_receive(mq, (char *)&msg, sizeof(msg), NULL);
        printf("%d\n", msg);
    }
    return NULL;
}
```

Source: [mqueue.c](#)