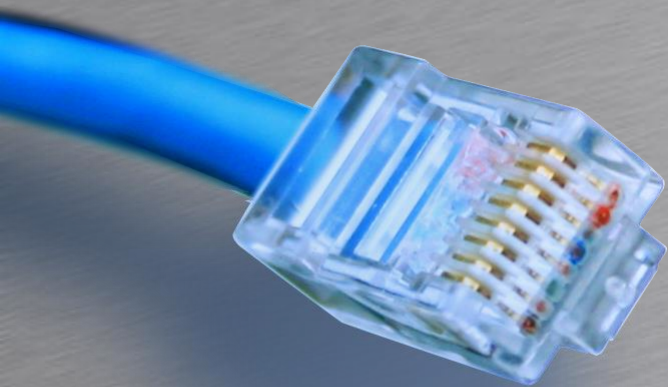


# PoE



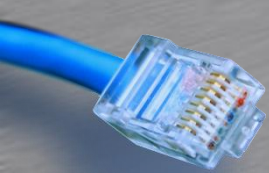
HOUSE OF  
TECHNOLOGY



- en del af **mercantec<sup>+</sup>**

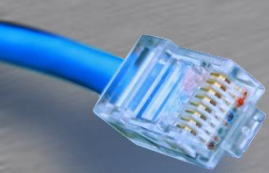
## Power over Ethernet

**TDC** IP telefoni Scale



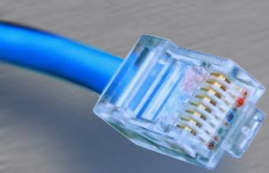
# PoE

- Bruges til at strømføde igennem netværksstikket
- Enheder som
  - IP kameraer (CCTP)
  - Point-of-Sale enheder
  - Kort scannere
  - IP Telefoner
  - Trådløse Access Punkter



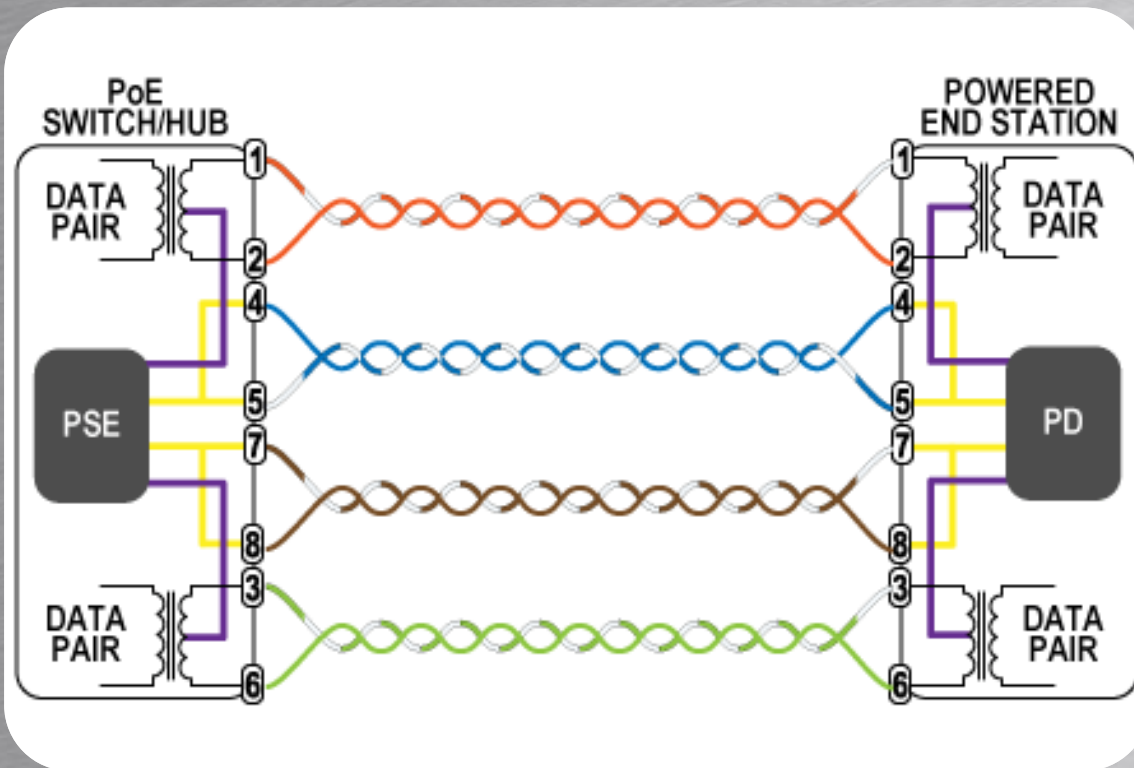
# PoE

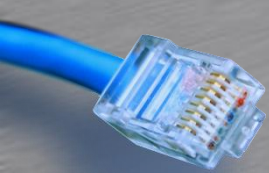
- Sender 48 Volt igennem ethernet kabler
- Der findes flere standarder
  - Prestandard (10W)
  - 802.3af (15,4W) / 802.3at type 1
  - 802.3at (30W) / PoE+
- Virker både på 100Mbit/s og 1Gbit/s
- Der findes 2 måder at overføre strømmen
  - Option A – Strøm sendes sammen med data
  - Option B – Strøm sendes over par 4/5 & 7/8
  - Begge skal være understøttet af PD'en
  - PSE'en bestemmer hvilken Option



# PoE

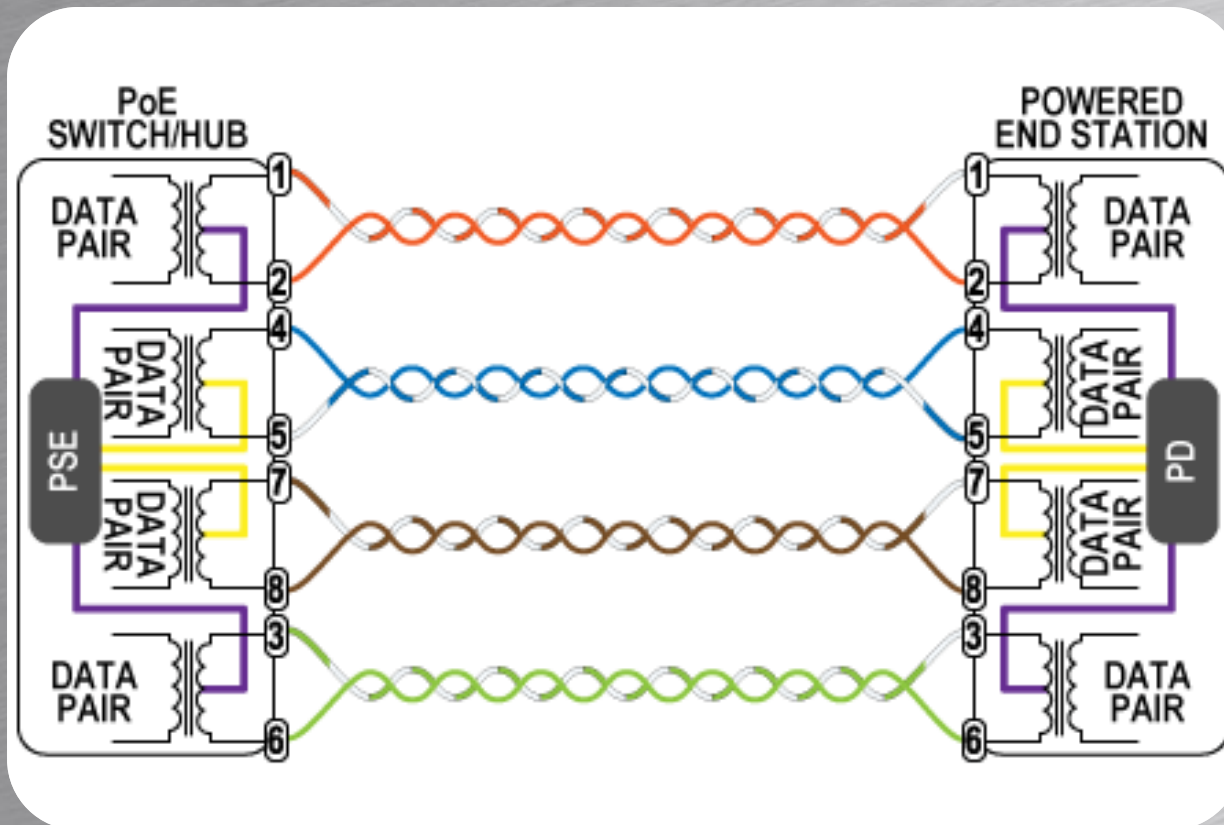
- 100BaseT
  - Option A - Violet
  - Option B - Gul

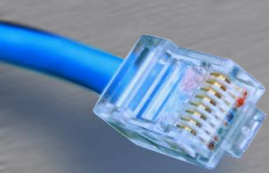




# PoE

- 1000BaseT
  - Option A - Violet
  - Option B - Gul

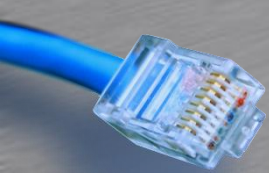




# PoE

- PSE enheden sender en lille spænding til PD'en for at starte forhandlings chippen.
  - Enheden må bruge 5-10mA imellem 60-400ms til at starte forhandlingen
- 802.3.at kan forhandler via LLDP-MED

Class	PSE Power(W)	PD Power(W)
0	15,4	0,44-12,95
1	4,0	0,44-3,84
2	7,0	3,84-6,49
3	15,4	6,49-12,95
4	30	12,95-25,5



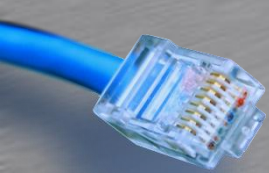
# PoE kommandoer

- Se PoE strøm og enheder:

```
3560-8T#show power inline
```

```
Available:124.0(w)  Used:6.3(w)  Remaining:117.7(w)
```

Interface	Admin	Oper	Power (Watts)	Device	Class	Max
Fa0/1	auto	off	0.0	n/a	n/a	15.4
Fa0/2	auto	off	0.0	n/a	n/a	15.4
Fa0/3	auto	on	6.3	Ieee PD	2	15.4
Fa0/4	auto	off	0.0	n/a	n/a	15.4
Fa0/5	auto	off	0.0	n/a	n/a	15.4
Fa0/6	auto	off	0.0	n/a	n/a	15.4
Fa0/7	auto	off	0.0	n/a	n/a	15.4
Fa0/8	auto	off	0.0	n/a	n/a	15.4



# PoE kommandoer

- Reserver strøm på en port:

```
Switch(config-if)#power inline static  
Switch(config-if)#
```

- Tillad ikke PoE på en port:

```
Switch(config-if)#power inline never  
Switch(config-if)#
```





# Opgave

- Beregn om switchen kan levere fuld PoE på alle porte på samme tid.
- Hvilke porte understøtter ikke PoE
- Genstart en telefon ved at fjerne PoE på porten og aktivere der igen.