



Monitoring and control system for offshore winches

ROV winches - Diving support winches - Hydrographic winches
Scientific winches - Towing winches - Electric and Hydraulic winches

Length and Tension Monitoring

Graphic and numeric display of wire length and tension. Alarms on overload and if an anchor slips.

Load Position Display

Graphic display showing load position relative to vessel or seabed

Heave Compensation

Automatic control of winch pull and speed to compensate for vessel movement, or for deployment and positioning of load

Winch Control

Reliable and efficient control of all electric and hydraulic trawl winches.

iSPOOL

Computer controlled wire spooling can increase the life time of mooring wires by 50% or more.

User Friendly

Graphics and operations are developed together with experienced skippers.

Data Logger

Simple access to historical data to let you monitor how a situation develops, or analyse previous recordings.

Hazardous Area

Sensors and activators available for Zone1 and Zone2 operation

ISYM Mooring Functions	Standard	Option
Wire length monitoring	X	
Wire tension monitoring	X	
Winch speed / wire speed monitoring	X	
Data logger	X	
Load position display	X	
Heave compensation active / Passive		X
Auto tension control		X
Auto speed control		X
Programmable stops		X
Echo sounder interface		X
MRU Interface		X
ISPOOL – Electronic wire spooling		X
Hazardous area operation. Zone 1 / Zone 2		X

Interface

iSYM measures wire length and tension and control winch speed and pull. iSYM includes simple and well arranged interface to most winch types.

iSYM can control following winches:

Hydraulic	Low Pressure
	Medium Pressure
	High Pressure
Electric	AC Motors
	DC Motors

iSYM Winch Interface:

Sensors	Wire Length
	Winch Speed
	Wire Tension
Controls	Winch Speed
	Winch Pull

Upgrading

The flexibility of the iSYM system makes it easy to upgrade existing load monitoring systems.

Existing sensors can be used if in good condition, or replaced if required.

There are also various solutions for readout stations locally by the winch, in the control room, or on the bridge.

iSYM has NMEA and Ethernet ports for easy interface to other systems on board.

Electronic Wire Spooling:

iSYM can be delivered with program for electronic wire spooling (iSPOOL). The spooling gear is computer controlled to get exact spooling even with varying wire diameter. You will save time spooling on the wires, and the wire life can be extended by more than 50%

The picture shows Aker Brattvaag Winch on board f/v Atlantic Enterprise. One winch with electronic spooling.



Sensors for tension and length measurement

Various sensor configurations are possible:

Tension measurement

- Load cell sheave
- Load cell in deflector sheave
- Load cell in winch foundation
- Load cell in winch brake
- Hydraulic pressure
- Electric motor current

Length measurement:

- Encoder or pickup on sheave
- Encoder or Pickup on deflector sheave
- Encoder or pickup on winch drum