

규격서

품명 및 규격 Description	단위 Unit	수량 Quantity
110kW Inverter Panel	SET	1

◇ 특징

- 본 하드웨어는 제조사로부터 인증을 받은 제품이어야 한다.
- 기존의 측정 장비와 호환이 가능해야 한다.

◇ 사용목적

- 트랙터 다이나모 성능 테스트

◇ 상세 규격

No	상 세 규 격
1	<p>◇ 규격</p> <ol style="list-style-type: none"> 1. 장비 형태: 다이나모 테스터 장비 구동 및 제어 패널 2. 패널 프레임 크기 : 2200 x 2000 x 600 (베이스 200 포함) 3. 규격 및 사양 <ol style="list-style-type: none"> (1) 일반 사항 <ul style="list-style-type: none"> - 열반시스템 형식 패널 - 패널 내부 온도 제어용 공조장치 설치 - 제어용 PLC 및 Drive 설치 - 보호용 각종 계전기류 설치 (2) 제어 시스템 사항 <ul style="list-style-type: none"> - AC/DC Regenerative Feedback Drive units - Power range: 110 kW - Line supply voltages 400~480 V (50/60 Hz) - Vector control with sensor is able to control using the PC as master - Induction and synchronous motors (incl. torque and linear motors) - Basis functions: Speed and torque control, positioning functions - Intelligent starting functions for automatic restart after a power interruption - BICO technology with interconnection to drive-related I/Os

	<p>4. 포함된 구성품</p> <p>(1) Drive System</p> <ul style="list-style-type: none"> - S120 - Control Unit PN - Compact Flash Card (Performance) - Basic Operator Panel - Single Motor Module - TM41 (Terminal Module) - SMC30 (Sensor Module) - 각종 Accessories <p>(2) PLC</p> <ul style="list-style-type: none"> - CPU : S7-1500 - SCALANCE - 각종 Accessories <p>(3) 각종 전장류</p> <ul style="list-style-type: none"> - Switch / Circuit Breaker / Button 등 <p>(4) 냉각 장치</p> <ul style="list-style-type: none"> - Cooling unit 2ea
2	<p>◇ 지원 사양</p> <ul style="list-style-type: none"> - 트랙터 다이나모 테스터 장비 사용 교육 <p>(단 제조사에서 설치한 전기 패널과 Input/output Motor에 한해서 장비교육 가능)</p>
3	<p>◇ 교육 및 검수</p> <ul style="list-style-type: none"> - S120 Drive 교육은 기본 1일(8시간 기준) 과정으로 한다 - S7-1500 교육은 기본 1일(8시간 기준) 과정으로 한다 - 검수는 시운전을 통해 이상 유·무를 확인한다. - 제조사로부터 인증된 정품이어야 한다.

입찰 사양서

Item NO	Description(품명)	Q'ty/unit
1	기어트레인 토크 및 속도제어용 110kW급 인버터	1 set

1. General Features

- 110kW 급 모터 구동
- 에너지 회생

2. 규격 및 사양

(1) 일반 사항

- AC/DC Regenerative Feedback Drive units
- Power range: 110 kW
- Line supply voltages 400~480 V (50/60 Hz)
- Vector control with sensor is able to control using the PC as master
- Induction and synchronous motors (incl. torque and linear motors)
- Basis functions: Speed and torque control, positioning functions
- Intelligent starting functions for automatic restart after a power interruption
- BICO technology with interconnection to drive-related I/Os
- Graphic configuring with free blocks using DCC to adapt the drive system in a user-friendly fashion to the machine environment
- Integrated safety functions to cost-effectively implement safety concepts
- Controlled infeed / regenerative feedback to avoid undesirable harmonics feedback into the line supply, regenerative feedback when braking and for an increased degree of ruggedness with respect to line supply fluctuations

(2) 세부 사항

- Control Units
 - 4 x DRIVE-CLiQ sockets for communication with other DRIVE-CLiQ devices, e.g. Motor Modules, Active Line Modules, Sensor Modules, Terminal Modules
 - CU320-2 PN: 1 PROFINET interface with 2 ports(RJ45 sockets) with PROFIdrive V4 profile
 - 12 parameterizable digital inputs (floating)
 - 8 parameterizable bidirectional digital inputs/digital outputs (non-floating)
 - 1 serial RS232 interface
 - 1 interface for the BOP20 Basic Operator Panel
 - 1 slot for the CompactFlash card on which firmware and parameters are stored
 - 1 slot for mounting an option module (e.g. TB30 Terminal Board)
 - 1 Ethernet interface for commissioning and diagnostics
 - 3 test sockets and one reference ground for commissioning support
 - 1 connection for the electronics power supply via the 24 V DC power supply connector
 - 1 PE/protective conductor connection
 - 1 ground connection
- Single Motor Module in booksize format
 - 2 DC link connections via integrated DC link busbars
 - 1 electronics power supply connection via integrated 24VDC bars
 - 3 DRIVE-CLiQ sockets
 - 1 motor connection via connector
 - 1 Safe Stop input

- 1 safe motor brake control
- 1 temperature sensor input for KTY84-130, Pt1000 or PTC (Pt100 can be used from firmware V4.7 HF17)
- 2 PE (protective earth) connections
- DRIVE-CLiQ cable (length depends on module width) to connect Motor Module to an adjacent Motor Module, length 0.11 m (4.33 in) for 50 mm (1.97 in) wide Motor Modules or length 0.16 m (6.3 in) for 75 mm (2.95 in) wide Motor Modules
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- Connector X21
- Connector X11 for motor brake connection
- Connector X1 for motor connection
- 1 set of warning labels in 30 languages
- Active Interface Modules in booksize format
 - Connector X21 for temperature evaluation and fan control
 - Connector X24 for connecting the 24 V supply for the integrated fan
 - DRIVE-CLiQ cable for connecting the Control Unit to the Active Interface Module; length of the DRIVE-CLiQ cable = width of the Active Interface Module + 0.11 m (4.33 in)
 - Shield connection plate for Active Interface Module 16 kW
 - 1 set of warning signs in 30 languages
- Active Line Modules in booksize format
 - 1 power connection via screw-type terminals
 - 1 connection for the 24 V DC electronics power supply via the 24 V terminal adapter included in the scope of supply
 - 1 DC link connection via integrated DC link busbars
 - 3 DRIVE-CLiQ sockets
 - 2 PE (protective earth) connections
 - 1 temperature sensor input for KTY84-130, Pt1000 or PTC (Pt1000 can be used from firmware V4.7 HF17)
 - DRIVE-CLiQ cable for connection to the adjacent Control Unit on the left for drive control, length 0.11 m (4.33 in)
 - DRIVE-CLiQ cable (length depends on Active Line Module width) for connection to the adjacent Motor Module, length = width of Active Line Module + 0.11 m (4.33 in)
 - 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
 - Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
 - 24 V terminal adapter (X24)
 - Connector X21 for digital inputs
 - Fan insert for Active Line Modules of 80 kW (100 hp) and 120 kW (150 hp) (the voltage for the fan unit is supplied by the Active Line Module)
 - 1 set of warning labels in 30 languages

3. 구성

(1) 드라이브 시스템

- Control Unit
- Compact Flash Card (Performance)
- Basic Operator Panel
- SITOP Smart
- Active Line Module
- Active Interface Module
- Single Motor Module
- TM41 (Terminal Module)
- SMC30 (Sensor Module)

(2) Accessories

- Drive-CLiQ Cable 5종
- Signal Cable
- Motion-connect cable
- Gland plates
- Spacers

장비 사양서

품 명 : 기어트레인 토크 및 속도제어용 110kW급 인버터
수 량 : 1 set

Product Name	Detailed specifications
General Specifications	<ol style="list-style-type: none"> 1. AC/DC Regenerative Feedback Drive units 2. Rated Power: 110 kW 3. Line supply voltages 400~480 V (50/60 Hz) 4. Vector control with sensor is able to control using the PC as master 5. Variable-speed drives with high speed and torque stability in general machine and plant construction 6. Particularly suitable for induction motors 7. Optimized pulse patterns for efficient motor/converter systems
Drive Control Unit	<ul style="list-style-type: none"> • 4 × DRIVE-CLiQ sockets for communication with other DRIVE-CLiQ devices, e.g. Motor Modules, Sensor Modules, Terminal Modules • CU320-2 PN: 1 PROFINET interface with 2 ports (RJ45 sockets) with PROFIdrive V4 profile • 12 parameterizable digital inputs (floating) • 8 parameterizable bidirectional digital inputs/digital outputs (non-floating) • 1 serial RS232 interface • 1 interface for the BOP20 Basic Operator Panel • 1 slot for the CompactFlash card on which firmware and parameters are stored • 1 slot for mounting an option module (e.g. TB30 Terminal Board) • 1 Ethernet interface for commissioning and diagnostics • 3 test sockets and one reference ground for commissioning support • 1 connection for the electronics power supply via the 24 V DC power supply connector • 1 PE/protective conductor connection • 1 ground connection
Product Name	Detailed specifications
Single Motor Module in booksize format	<ul style="list-style-type: none"> • 2 DC link connections via integrated DC link busbars • 1 electronics power supply connection via integrated 24VDC bars • 3 DRIVE-CLiQ sockets • 1 motor connection via connector • 1 Safe Stop input • 1 safe motor brake control • 1 temperature sensor input for KTY84-130, Pt1000 or PTC (Pt100 can be used from firmware V4.7 HF17) • 2 PE (protective earth) connections • DRIVE-CLiQ cable (length depends on module width) to

	<p>connect Motor Module to an adjacent Motor Module, length 0.11 m (4.33 in) for 50 mm (1.97 in) wide Motor Modules or length 0.16 m (6.3 in) for 75 mm (2.95 in) wide Motor Modules</p> <ul style="list-style-type: none"> • 2 blanking plugs for sealing unused DRIVE-CLiQ sockets • Jumper for connecting the 24 V DC busbar to the adjacent Motor Module • Connector X21 • Connector X11 for motor brake connection • Connector X1 for motor connection • 1 set of warning labels in 30 languages
Active Interface Modules in booksize format	<ul style="list-style-type: none"> • Connector X21 for temperature evaluation and fan control • Connector X24 for connecting the 24 V supply for the integrated fan • DRIVE-CLiQ cable for connecting the Control Unit to the Active Interface Module; length of the DRIVE-CLiQ cable = width of the Active Interface Module + 0.11 m (4.33 in) • Shield connection plate for Active Interface Module 16 kW • 1 set of warning signs in 30 languages
Product Name	Detailed specifications
Active Line Modules in booksize format	<ul style="list-style-type: none"> • 1 power connection via screw-type terminals • 1 connection for the 24 V DC electronics power supply via the 24 V terminal adapter included in the scope of supply • 1 DC link connection via integrated DC link busbars • 3 DRIVE-CLiQ sockets • 2 PE (protective earth) connections • 1 temperature sensor input for KTY84-130, Pt1000 or PTC (Pt1000 can be used from firmware V4.7 HF17) • DRIVE-CLiQ cable for connection to the adjacent Control Unit on the left for drive control, length 0.11 m (4.33 in) • DRIVE-CLiQ cable (length depends on Active Line Module width) for connection to the adjacent Motor Module, length = width of Active Line Module + 0.11 m (4.33 in) • 2 blanking plugs for sealing unused DRIVE-CLiQ sockets • Jumper for connecting the 24 V DC busbar to the adjacent Motor Module • 24 V terminal adapter (X24) • Connector X21 for digital inputs • Fan insert for Active Line Modules of 80 kW (100 hp) and 120 kW (150 hp) (the voltage for the fan unit is supplied by the Active Line Module) • 1 set of warning labels in 30 languages