

ABB LEGACY DRIVE SYSTEMS

YPQ202A

YT204001-KB

Basic I/O interface and terminal conversion board

MANUFACTURER

ABB

BOARD DESIGNATION

YPQ202A

PART NUMBER

YT204001-KB

FUNCTIONAL ROLE

Field I/O to control software

The board forms the basic TYRAK I/O interface between external hardware signals and the drive control software. It provides digital, analog and pulse-signal paths with channel separation appropriate to each signal class.

Product overview

ABB YPQ202A YT204001-KB is identified as the basic terminal and conversion board used in TYRAK drive and converter control architectures. It channels field-side signals into the software signal structure used for command, feedback, monitoring and operator indication.

8

digital inputs

5

digital outputs

4

analog inputs

2

analog outputs

3

pulse inputs

IDENTIFICATION SCOPE

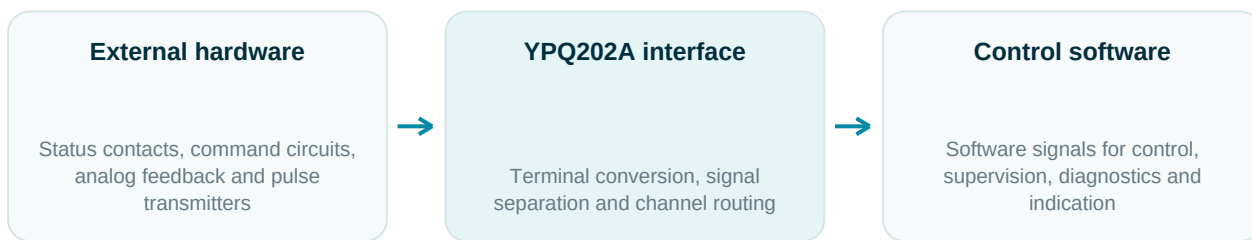
This data book uses the complete identification YPQ202A / YT204001-KB. Functional data is consolidated from ABB TYRAK documentation for the YPQ202 basic I/O interface. Confirm the installed board revision, connector keying, jumper positions and control program before replacement.

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Function and operating principle

Signal path

YPQ202A provides the hardware boundary between field devices and the TYRAK software signal environment. The board terminates external signals, applies channel-specific separation or differential handling, and presents the resulting paths to software modules through the system interconnection.



How the interface handles signals

- Digital input channels use optical separation before field states are represented as software signals.
- Digital output channels use relay separation to pass software commands toward external control circuits.
- Analog input and output paths use differential amplifier stages; ABB specifies 0.05 percent resolution for these analog channels.
- Pulse transmitter inputs use optical separation and provide the hardware path for pulse-based speed or position feedback.
- The interface includes terminals for meters displaying actual armature current and actual speed in supported TYRAK arrangements.

Control-program relationship

The physical channel set remains the basic I/O resource, while task allocation and software mapping depend on the installed TYRAK control program. Channel timing labels such as T1, T2 and T4 belong to the applicable software documentation and must not be interpreted as universal millisecond values.

CORE OPERATING PRINCIPLE

Field signals are converted into software-visible channels; software commands return through isolated output paths to the external drive system.

Verified I/O capability

ABB TYRAK documentation

The following channel architecture is stated for the YPQ202 basic I/O interface in ABB TYRAK XL and TYRAK LCI control-program documentation. It is the verified functional basis for the YPQ202A board identification used in this data

I/O type	Channels	Separation / stage	Verified function note
Digital input	8	Optical	External status and logic signals
Digital output	5	Relay	Command paths to external circuits
Analog input	4	High-ohmic differential amplifier	0.05 percent resolution; tachometer-feedback provision included
Analog output	2	High-ohmic differential amplifier	0.05 percent resolution
Pulse transmitter input	3	Optical	Pulse-based feedback path
Meter terminals	2 functions	Interface terminals	Actual armature current and actual speed

TYRAK XL / LCI

The channel table above is paired with software modules that convert external hardware signals into software signals. Meter terminals for actual armature current and actual speed are also part of the basic interface description.

TYRAK MIDI II EXAMPLE

TGD201XX allocates 2 digital inputs to T1 and 6 to T2; 5 digital outputs to T2; 1 analog input, 2 analog outputs and 3 pulse inputs to T1; and 3 analog inputs to T2.

CONFIGURATION NOTE

Sample-task allocation varies with the control program. Preserve the installed software mapping and verify it against the exact TYRAK program documentation.

Applications and integration

Replacement planning

YPQ202A is intended for the basic I/O layer of ABB TYRAK converter and drive control systems. Its mixed-signal channel set supports the exchange of commands, equipment states, analog feedback and pulse-transmitter information between field hardware and the drive-control software.

Typical system roles

Command and status

Digital channels exchange external command states and software-controlled output actions.

Analog feedback

Differential analog paths carry continuous process or drive feedback, including supported tachometer arrangements.

Pulse feedback

Optically separated pulse inputs provide a signal path for pulse-transmitter feedback used by the drive control.

Local indication

Dedicated terminals support meters for actual armature current and actual speed in applicable installations.

Replacement and commissioning checks

- Match both identifiers: board designation YPQ202A and part number YT204001-KB.
- Identify the installed TYRAK family, converter control program and circuit-diagram reference before moving wiring.
- Record all connector positions, terminal designations and hardware jumper settings before removing the existing board.
- For supported TYRAK MIDI II configurations, analog tachometer feedback may use analog input channel four; jumper selection and parameter fine adjustment must be preserved.
- Validate channel mapping and software task allocation against the exact control program rather than copying settings from another TYRAK application.
- Complete commissioning and fault tracing with the applicable ABB system test and circuit documentation.

TECHNICAL NOTE

Do not treat YPQ202A as a generic I/O card: connector identity, jumpers, control-program mapping and feedback arrangement are part of the replacement decision.

Source basis and product support

ABB official literature

The technical statements in this data book are consolidated from ABB Library documents that describe the YPQ202 basic I/O interface within TYRAK converter and drive control systems. Product identification is retained exactly as YPQ202A / YT204001-KB.

Official ABB source documents

SOURCE 01 | 3ASD 4890 004C 1012**TYRAK XL / TYRAK LCI - Converter control programs DSRB01XX**

I/O communication interface, channel count, separation, analog resolution and meter terminals.

SOURCE 02 | 3ASD 4890 004C 1052**TYRAK XL - Converter control programs CCXS01XX and CX1201XX**

YPQ202 connection-board role, mixed I/O channel architecture, separation and analog resolution.

SOURCE 03 | 3ASD 4890 001B 1072**TYRAK MIDI II - Converter control program TGD201XX**

YPQ202 basic I/O channels and T1/T2 software task allocation example.

REQUEST PRODUCT INFORMATION

Apter Power

For price, stock, delivery, technical documentation and identification support for YPQ202A / YT204001-KB.

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**USE NOTE**

This concise data book supports identification and preliminary replacement planning. Installation, jumper selection, software mapping, commissioning and fault tracing must follow the ABB documentation and circuit diagrams for the installed TYRAK system.