## **SIEMENS**

## **Data sheet**

## 6ES7141-6BH00-0AB0



SIMATIC DP, ET 200ECO PN, 16 DI 24 V DC; 8xM12, duplicate assignment; Degree of protection IP67  $\,$ 

Figure simila

Figure similar	
General information	
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0306H
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
power supply according to NEC Class 2 required	Yes
Input current	
Current consumption, typ.	100 mA
from supply voltage 1L+, max.	4 A
Encoder supply	
Number of outputs	8
24 V encoder supply	
Short-circuit protection	Yes; Electronic
<ul> <li>Output current, max.</li> </ul>	100 mA; per output
Power loss	
Power loss, typ.	6.5 W
Digital inputs	
Number of digital inputs	16
• in groups of	2
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 60 °C, max.	16
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+11 to +30V
Input current	
• for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", max.	typically 3 ms
— at "1" to "0", max.	typically 3 ms
Cable length	
• unshielded, max.	30 m
Encoder	
Connectable encoders	
2-wire sensor	Yes

Interfaces	permissible quiescent current (2-wire sensor), max.	1.5 mA
Transmission procedure		
Interface types		100BASE-TX
Interface yees  * MIZ port * Interplace system  * Interface yees  * MIZ port * Uninegotation * Ves * Uninegotation * Uninegota	·	1
Interface yees  * MIZ port * Interplace system  * Interface yees  * MIZ port * Uninegotation * Ves * Uninegotation * Uninegota		
Mil	Interface types	
Interface types  Miz port	• •	Yes
MX2 port Autonegotiation Autonegotiation Autonegotiation Autonessing Yes Autonegotiation Transmission rate, max. 100 Mbit/s  Protocols  Supports protocol for PROFINET IO Yes PROFINET CBA No PROFINET CBA No PROFINET IO Device Services — IRT with the option "high flexibility" Yes Protocols Autonegotiation — IRT with the option "high flexibility" Yes Redundancy mode Media restordancy — MRP Yes Open IE communication  - ICP/IP No - SNMP Yes - CPP Yes - LLDP - LIDP - Yes - LIDP - Ing - Ing - Yes - Yes - Ing - Ing - Yes - Yes - Ing - Yes - Yes - Yes - Ing - Yes - Yes - Yes - Yes - Yes - Ing - Yes - Yes - Yes - Ing - Yes - Yes - Yes - Yes - Ing - Yes - Y	• integrated switch	Yes
. Autorcrossing	Interface types	
- National Protection - Transmission rate, max.    100 Mbit/s	M12 port	
Protection Supports protect for PROFINET IO PROFINET CBA No PROFINET CBA No PROFINET IO Device Services — IRT with the option "high floxibility" — Prioritized startup Yes Services — IRT with the option "high floxibility" — Prioritized startup Yes  Gedundancy — MRP Ves  Open IE communication  • TCPIP No • SNMP • CCP • Yes • LLDP • pilig • pi	Autonegotiation	Yes
Supports protocol for PROFINET IO Yes PROFINET IO BA No PROFIsafe No PROFISAFE No PROFINET IO Device Services		Yes
Supports protocol for PROFINET IO Yes PROFINET CBA No PROFINET Device  PROFINET Device  Services	<ul> <li>Transmission rate, max.</li> </ul>	100 Mbit/s
PROFINET CBA PROFIsate No PROFIsate No PROFINET IO Device Services — IRT with the option "nigh flexibility" — Prioritized startup Yes  Redundancy mode Media redundancy — MRP	Protocols	
PROFINET IO Device  Services  — IRT with the option "high flexibility" Yes  — Prioritized startup Yes  Redundancy mode  Media redundancy  — MiRP Yes  Open IE communication  • TCPIP No  • SNMP Yes  • DCP Yes  • LLDP Yes  • ping Yes  • ARP Yes  Open Services  • Diagnostic sfunction  Diagnostic sfunction Yes  • Diagnostic information readable Yes  • Diagnostic information readable Yes  • Monitoring the supply voltage Yes; green "ON" LED  • Wire-break in signal transmitter cable Yes  • Short-Circult encoder supply  • Group error Yes; Red/yellow "SF-MT" LED  Potential separation  Detween the load voltages and all other switching components No  Detween the load voltages  Potential separation  Detween the foat name is  • Detween the channels  • Detween the protection  Itested with  • 24 V DC circuits  • Test voltage for interface, rms value [Vrms]  • Test voltage for interface onnection  Dimensions  Width  Height  Heigh	Supports protocol for PROFINET IO	Yes
PROFINET IO Device	PROFINET CBA	No
Services	PROFIsafe	No
- IRT with the option "high flexibility" Yes Prioritzed startup Yes Redundancy Yes Redundancy - MRP Yes  Popen IE communication  • TCP/IP No • SNMP Yes • DCP Yes • LLDP Yes • LLDP Yes • ILLDP Yes • ILLDP Yes • ILLDP Yes • Interrupted lagnostics/status information  Diagnostics function  • Tight the supply voltage Yes; green "ON" LED • Monitoring the supply voltage Yes; green "ON" LED • Wire-break in signal transmitter cable Yes • Short-circuit encoder supply Yes; Per channel group • Group error  Potential separation  between the load voltages Yes Potential separation bannels • between the channels • between the channels • between the channels • between the channels • Croup error  Potential separation channels • between the channels • between the channels • Degree and chase of protection  Test voltage for interface, ms value [Vrms] • 1500 V; According to IEEE 802.3  Degree and chase of protection  IP65/67  connection method  Design of electrical connection  With Height • Height • 75 mm	PROFINET IO Device	
Redundancy mode  Media redundancy — MRP  Media redundancy — MRP  Yes  Open IE communication	Services	
Redundancy mode  Media redundancy	— IRT with the option "high flexibility"	Yes
Media redundancy	— Prioritized startup	Yes
Open IE communication  TCP/IP  SNMP  OC	Redundancy mode	
TCP/IP	Media redundancy	
■ TCP/IP     ■ SNIMP     ■ SNIMP     ■ CPP     ■ LLDP     ■ Yes     ■ LLDP     ■ yes     ■ ping     ■ ARP     ■ Yes     ■ ARP     ■ ARP     ■ Yes  Interrupts/diagnostics/status information  Diagnostics function  Alarms     ■ Diagnostic alarm     ■ Diagnostic information readable     ■ Monitoring the supply voltage     ■ Monitoring the supply voltage     ■ Wire-break in signal transmitter cable     ■ Short-circuit encoder supply     ■ Group error     ■ Short-circuit encoder supply     ■ Group error  Potential separation  Between the load voltages All other switching components     ■ between load voltages and all other switching components     ■ between the channels     ■ Detential separation channels     ■ Detential separation channels     ■ Detential separation channels     ■ Detential separation profits and all other switching components     ■ Detential separation channels     ■ Test voltage for interface, rms value [Vrms]     □ 1500 V; According to IEEE 802.3  Degree and class of protection     □ IP degree of protection     □ IP degree of protection     □ Design of electrical connection     □ Alf5-pin M12 circular connectors  Dimensions  Width     □ 60 mm Height     □ 175 mm Depth     □ Alm mm		Yes
SNMP DCP PCP PCP PCP PCP PCP PCP PCP PCP PC	Open IE communication	
DCP LLDP Yes Ping ping ARP Yes  Nes  Nes  Interrupts/diagnostics/status information  Diagnostics function  Diagnostics function  Polagnostic alarm  Diagnoses  Diagnoses  Diagnoses  Diagnoses  Diagnoses  Nont-circuit encoder supply voltage Short-circuit encoder supply Fes; Per channel group Forum Yes; Red/yellow "SF/MT" LED  Potential separation  Detween the load voltages Average	• TCP/IP	No
LLDP Ping Ping ARP Yes  ARP Yes  Interrupts/diagnostics/status information  Diagnostics function Alarms  Diagnostic alarm Pisapnoses  Diagnostic information readable Nonitoring the supply voltage Nonitoring the supply Vess, Per channel group Short-circuit encoder supply Ses; Per channel group Short-circuit encoder supply Nes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Nonitoring the switching components Nonitoring the switching the switchin	• SNMP	Yes
Ping Yes ARP Nes	• DCP	Yes
• ARP Yes  Interrupts/diagnostics/status information  Diagnostics function Yes  Alarms  • Diagnostic alarm Yes  Diagnoses  • Diagnostic information readable Yes  • Monitoring the supply voltage Yes; green "ON" LED  • Wire-break in signal transmitter cable Yes  • Short-circuit encoder supply Yes; Per channel group  • Group error Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Yes  between load voltage and all other switching components No  between Ethernet and electronics Yes  Potential separation channels  • between the channels  • between the channels  • Detween the channels  • Tor V DC (type test)  • Test voltage for interface, rms value [Vrms] 1 500 V; According to IEEE 802.3  Degree and class of protection  IP degree of protection  IP degree of protection  Design of electrical connection 4/5-pin M12 circular connectors  Dimensions  Width 60 mm  Height 175 mm  Depth 49 mm	• LLDP	Yes
Interrupts/diagnostics/status information	• ping	Yes
Diagnostic function Yes  Alarms  • Diagnostic alarm Yes  Diagnoses  • Diagnostic information readable Yes  • Monitoring the supply voltage Yes; green "ON" LED  • Wire-break in signal transmitter cable Yes  • Short-circuit encoder supply Yes; Per channel group  • Group error Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Yes  between load voltage and all other switching components No  between Ethernet and electronics Yes  Potential separation channels  • between the channels  • between the channels  • between the channels  • between for interface, rms value [Vrms]  Pegree and class of protection  IP degree of protection IP65/67  connection method  Design of electrical connection 4/5-pin M12 circular connectors  Dimensions  Width  Height 175 mm  Depth 49 mm		Yes
Diagnostic alarm  Diagnoses  Diagnoses  Diagnoses  Diagnoses  Diagnoses  Polagnostic information readable  Monitoring the supply voltage  Wes; green "ON" LED  Wire-break in signal transmitter cable  Short-circuit encoder supply  Group error  Poential separation  Between the load voltages  Petween the load voltage and all other switching components  Detween Ethernet and electronics  Potential separation channels  between the channels  No  Isolation  tested with  24 V DC circuits  Tor V DC (type test)  Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  IP65/67  connection method  Design of electrical connection  Midth  60 mm  Height  175 mm  Depth  49 mm	Interrupts/diagnostics/status information	
Diagnostic alarm Diagnoses  Diagnostic information readable Monitoring the supply voltage Wire-break in signal transmitter cable Short-circuit encoder supply Group error Potential separation  between the load voltages Potential separation  between Ethernet and electronics Potential separation obetween Ethernet and electronics Potential separation channels  Detween Ethernet and electronics Potential separation channels  Detween the channels  Detween the channels  1	Diagnostics function	Yes
Diagnoses  Diagnostic information readable  Monitoring the supply voltage Wire-break in signal transmitter cable Short-circuit encoder supply Group error Yes; Per channel group Group error Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Yes between load voltage and all other switching components No between Ethernet and electronics Yes Potential separation channels  between the channels No  Isolation  tested with 24 V DC circuits Test voltage for interface, rms value [Vrms]  Degree and class of protection IP degree of protection IP degree of protection Upgeree and class of protection IP degree of protection Dimensions  Width Both Height 175 mm Depth 49 mm	Alarms	
Diagnostic information readable  Monitoring the supply voltage  Yes; green "ON" LED  Yes  Short-circuit encoder supply  Group error  Yes; Per channel group  Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages  between load voltage and all other switching components  No  between Ethernet and electronics  Potential separation channels  between the channels  No  Isolation  Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  Upegree of protection  Dimensions  Width  60 mm  Height  175 mm  Depth  49 mm	Diagnostic alarm	Yes
Monitoring the supply voltage     Wire-break in signal transmitter cable     Short-circuit encoder supply     Group error  Potential separation  between the load voltages     between tand electronics  Potential separation  No  between Ethernet and electronics  Potential separation No  Isolation  tested with     24 V DC circuits     Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  Design of electrical connection  Vidth     60 mm  Height     175 mm  Depth  Ves; Red/yellow "SF/MT" LED  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	9	
Wire-break in signal transmitter cable Short-circuit encoder supply Group error Yes; Per channel group Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Yes between load voltage and all other switching components No between Ethernet and electronics Yes Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  Pesign of electrical connection  Design of electrical connection  Dimensions  Width 60 mm  Height 175 mm  Depth 49 mm		
Short-circuit encoder supply Group error Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages Yes between load voltage and all other switching components between Ethernet and electronics Yes  Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Pegree and class of protection  IP degree of protection  Design of electrical connection  ### Add To many  Width ### 60 mm  Height Height 175 mm  Depth  Potential separation channels No  Yes  Yes  No  No  IP description  IP description  IP 65/67  Connection method  ### Add To many ### A		
Group error     Yes; Red/yellow "SF/MT" LED  Potential separation  between the load voltages     Yes  between load voltage and all other switching components     No  between Ethernet and electronics     Yes  Potential separation channels     • between the channels     No  Isolation  tested with     • 24 V DC circuits     • Test voltage for interface, rms value [Vrms]  IP degree and class of protection  IP degree of protection  connection method  Design of electrical connection  Width     60 mm  Height     175 mm  Depth  Depth  49 mm		
Potential separation  between the load voltages  between load voltage and all other switching components  No  between Ethernet and electronics  Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Pegree and class of protection  IP degree of protection  Peging of electrical connection  Dimensions  Width  60 mm  Height  175 mm  Depth		•
between the load voltages  between load voltage and all other switching components  No  between Ethernet and electronics  Yes  Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  Design of electrical connection  Width  60 mm  Height  Depth  Person August Augus	·	Yes; Red/yellow "SF/MT" LED
between load voltage and all other switching components  between Ethernet and electronics  Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits  • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  IP degree of protection  Design of electrical connection  Width  Height  Height  Depth  No  Yes  Yos  Yes  Yos  Yes  Yes  Yes  Ye		
between Ethernet and electronics  Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits  • Test voltage for interface, rms value [Vrms]  IP degree and class of protection  IP degree of protection  IP degree of protection  Uesign of electrical connection  Design of electrical connection  Width  60 mm  Height  175 mm  Depth		
Potential separation channels  • between the channels  No  Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  IP degree of protection  Design of electrical connection  Dimensions  Width  60 mm  Height  175 mm  Depth		
between the channels  Isolation  tested with      24 V DC circuits     Test voltage for interface, rms value [Vrms]  IP degree and class of protection  IP degree of protection  IPesign of electrical connection  Design of electrical connection  Width  60 mm  Height  Depth  No  707 V DC (type test)  708 V; According to IEEE 802.3  709 V DC (type test)  809 V; According to IEEE 802.3  809 V; Accor		Yes
Isolation  tested with  • 24 V DC circuits • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  IP degree of protection  Design of electrical connection  Dimensions  Width  Height  Depth  175 mm  Depth	·	
tested with  • 24 V DC circuits  • Test voltage for interface, rms value [Vrms]  Degree and class of protection  IP degree of protection  IP degree of protection  Design of electrical connection  Dimensions  Width  Height  Depth  175 mm  Depth  49 mm		No
● 24 V DC circuits  ● Test voltage for interface, rms value [Vrms]  1 500 V; According to IEEE 802.3  Degree and class of protection  IP degree of protection  IP degree of protection  UP65/67  connection method  Design of electrical connection  Vidth  60 mm  Height  175 mm  Depth  49 mm		
● Test voltage for interface, rms value [Vrms] 1 500 V; According to IEEE 802.3  Degree and class of protection  IP degree of protection IP65/67  connection method  Design of electrical connection 4/5-pin M12 circular connectors  Dimensions  Width 60 mm  Height 175 mm  Depth 49 mm		
Degree and class of protection  IP degree of protection  IP degree of protection  Connection method  Design of electrical connection  Dimensions  Width  Height  Depth  175 mm  Depth  49 mm		
IP degree of protection  connection method  Design of electrical connection  Dimensions  Width  Height  Depth  175 mm  49 mm		1 500 V; According to IEEE 802.3
connection method       Design of electrical connection     4/5-pin M12 circular connectors       Dimensions       Width     60 mm       Height     175 mm       Depth     49 mm		
Design of electrical connection 4/5-pin M12 circular connectors  Dimensions  Width 60 mm  Height 175 mm  Depth 49 mm		IP65/67
Dimensions           Width         60 mm           Height         175 mm           Depth         49 mm		
Width         60 mm           Height         175 mm           Depth         49 mm		4/5-pin M12 circular connectors
Height 175 mm Depth 49 mm	Dimensions	
Depth 49 mm	Width	60 mm
	Height	175 mm
Weights		49 mm
	Weights	

Weight, approx.	910 g

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