OMRON 3G3DV Drive Series

All the power you need, when and wherever you need it.

» Single drive solution that's powerful, flexible and efficient

» Suitable for Category 3 installations

» offers you a wide range of functions from PLC functionality

to synchronizing and load estimation

Single solution for any type of application

The 3G3DV is a single drive concept that controls all operations from standard to servo motors on any machine or production line. The standard versions cover a wide range of functions such as PLC functionality, automatic fine-tuning of motor control and self-analysis of performance. Positioning, synchronizing, load estimation and even servo performance are also available. All versions share an identical user interface, so once you've operated one, can use them all.

Outstanding Programming on Board

The 3G3DV smart logic controller is a simple but clever way to keep your AC drive, motor and application working together. When the event monitored by the inverter occurs, it triggers a specified act and starts monitoring the next event continuing for up to 20 different steps before returning to step one. It's able not only to monitor any parameter that can be defined as "true" or "false", but also digital commands, logic expressions, allowing even sensor outputs to influence the operation. Temperature, pressure, flow, time, load, frequency, voltage and other parameters combined with the operators ">," "<," "=," and "and" "or" forms logical statements, you can program the controller to react to almost any event you choose.

Incomparable Digital Operator

The digital operator shows bars and graphs, displays international letters and symbols, the selected LED's are illuminated when active, allows uploading and downloading parameter sets from one drive to another. It has IP65 rating when mounted in panel door, it's removable during operation.

Menu structure based on the matrix system, having shortcuts for experienced users, edit and operate in up to 4 different setups simultaneously.

The "Personalized Quick Menu" and "Changes Made Menu", lists parameters unique to your application, making easy quick setup for specific applications.

Last but not least the Info button let you check the "on board manual", the Cancel key allows to "undo" the latest change, easy and quick access to the Alarm log for improving maintenance

Smart heat disposal

Two different ways of cooling are available, "Forced convection" or "Cold plate"; there is total separation between cooling air and electronics.

A fan blows cold air through the cooling ribs of the aluminum base.

The channel is easily cleaned without touching electronics.

External cooling is possible through the back side of the aluminum base. A flanged heatsink kit is available for mounting the drive in the back-plate of a cabinet.

Accurate and elastic for diverse range of uses

Conveyors

The new 3G3DV lets you control your conveyors as never before, allowing altering production speed at any time, without rebuilding the conveyor.

The Precise Pulse Reference feature ensures that all conveyors are in sync by designating a master conveyor, which all other conveyors follow, even if the application involves several parts.

The Precise Pulse Stop feature ensures that products are always where they should be on the line, automatically compensates for the speed of the object when passes the stop sensor, regardless of production speed using an open system.

The 3G3DV can utilize power generated from kinetic energy for controlled ramp-down in case of power loss. The application is ready for quick restart when the power returns.

Cranes, Hoist and Elevators

The 3G3DV estimates motor currents generated by actual loads and compensates it, to make the crane start and stop smoothly just where it should be.

The 3G3DV ability to change speed automatically allows equipment to operate at a partial or minimum load. The AC drive estimates the load and maximizes production speed, adjusting to changing conditions that influence the operation of cranes and other equipment.

When stopped, the 3G3DV will slow a hoist to zero before activating the mechanical brake. This results in gentler handling, and virtually eliminates wear on the brake.

The same benefits apply to hoists and elevators

Benefits Summary:

• Low torque ripple gives smooth operation

• Precise load estimation allows for precise positioning regardless of load

• Load estimation saves time and speeds up production safely and intelligently

• Full holding torque capability at 0 RPM gives a smooth ride and reduces mechanical wear on gears and brakes, minimizing maintenance and maximizing production uptime

Winders / Un-winders

The torque required in all winders / un-winders, to accelerate and decelerate an application varies with the load. In center winders the required torque even varies with the dimension of the roll. It is essential in winding operations to fully control the tension of the material being wound / un-wound, then is needed Torque mode with high-precision torque control. The 3G3DV AC drive is able to dynamically follow a wide range of torque references, to maintain tangential tension independently of the line speed and roll diameter.

Petrochemical, mining, forestry, water and gas supply

The 3G3DV comes in 600 and 690 V series typical for applications in those environments, 690 V versions goes up to 1.2 MW. Conformance to IEEE519 1992 using the AHF filters

Food, beverage and pharmaceutical

All 3G3DV's have manganic phosphor rear bodies.

The backs of NEMA 4X (IP 66) enclosures are dip-coated with epoxy or polyester spray finish (60 - 100 ↔m). The cover is powder coated (80 - 100 ↔m).

The silicone gasket is tested with various detergents.

Presses

The 3G3DV it's the perfect match for the Omron safety relays. The 3G3DV is equipped with safe stop functionality suitable for Category 3 installations as defined by EN 954-1, the electrical connection is extremely simple - just one wire, without the need for feedback signals from the drive to the safety relay.

The 3G3DV standard feature terminal 37 can be used as "safe coast" preventing any AC drive from starting accidentally. The stop function satisfies stop category 3 EN 60204-1.

Expensive and external components can be omitted, wiring can be simplified, and downtime can be minimized with this solution.

The safety signals can be transferred via discrete signals wiring (in compact machinery) or safe bus communication (in extended manufacturing plants).

High speed machinery

The 3G3DV tie-up all the performance of permanent magnet motors in highly dynamic applications. The 3G3DV very fast processor enables to precisely control, position, acceleration and torque.

Special needs require special features and performance	
Performance	3G3DV
Power range 200–240 V [HP]	0.5 -50
Power range 380–(480) 500 V [HP]	0.5 - 1200
Power range 550–600 V [HP]	1 - 100
Power range 525–690 V [HP]	125 - 1150
Ambient temp °C (average for 24 hours, without derating - IP2I enclosure)	45
Ambient temp °C max (IP21), without derating	50
Ambient temp °C max, with derating	55
IP21/NEMA 1; IP54/NEMA 12	√
IP66/NEMA4	√
Smart Logic Control	√
Logic Rule Control	√
Safe Stop input function approved	√
Digital Operator numerical or graphical	√
Info / Help function	√
Personal menu (macro)	√
Regional settings (US mode)	√
Language settings	√
Change made restore previous setting	√
Password protection	√
Analogue input	-10 to +10V
Digital inputs	6
Digital transistor outputs1	2
Relay outputs	2
Analogue output resolution	12 bit
PC connection: RS 485 and USB	√
Default motor data	√

Special needs require special features and performance

Permanent Magnet Motor algorithm		√
Process PID control		√
Precise Start / Stop		√
Preset references		8
Electronic potentiometer		√
Ramp functions: linear and S-ramps		√
DeviceNet, Profibus, Ethernet IP		√
ProfiSafe		√
Interface options:		√
Extended input/outputs	3G3DV-BGIO-1	√
Encoders option	3G3DV-BENC-1	√
Resolver option	3G3DV-BRES-1	√
Relay option	3G3DV-BRLY-1	√
Safe PLC interface	3G3DV-BSPI-1	√
External 24V backup option	3G3DV-B24S-1	√
Cable length−screened / unscreened		150 / 300m
RFI EN55011 class A2 (Industry)		<5 m
RFI EN55011 class A1 (Industry)		<150 m
RFI EN55011 class B1 (Domestic)		<50 m
Voltage Vector Control VVC+		√
Flux Vector Control		√
Automatic Energy Optimizing {AOE}		√
Controlled ramp down		√
Flying start−catch spinning motor		√
Variable switching frequency 1−16 kHz[2]		√
Over Voltage Control		√
Fan replaceable		√

[1] **Converting digital inputs**
[2] **Power size dependant**

Specifications

Mains supply (L1, L2, L3):
Supply voltage:	200-240V÷10%
Supply voltage:	380-500 V÷10%
Supply voltage:	550-600V÷10%
Supply voltage:	525-690V÷ 10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(>098)
Switching on input supply L1, L2, L3	2 times/min.

Output data (U, V. W):
Output voltage:	0-100% of supply voltage
Output frequency:	0-1000 Hz
Switching on output	Unlimited
Ramp times:	0.02-3600 sec.
Closed loop:	0-132 Hz

Digital Inputs:
Programmable digital inputs:	4(6)> 6
Logic	PNP or NPN
Voltage level	0-24V DC
Voltage level, logic:	'0' PNP logic < 5V DC
Voltage level, logic:	'1' PNP logic> 10V DC
Voltage level, logic:	'0' NPN logic> 19V DC
Voltage level, logic:	'1' NPN logic < 14 V DC
Maximum voltage on input:	28VDC
Input resistance, Ri:	approx. 4k ↑

Analog Inputs:
Analog inputs	2
Modes	Voltage or current
Voltage level	-10 to+10V (scalable)
Current level	0/4 to 20 mA (scalable)
Accuracy of analog inputs	Max. err. 0.5% of full scale
Scan interval:	1ms

Pulse/encoder Inputs:
Programmable pulse/encoder inputs	2/1
Voltage level	0-24 V DC (PNP positive logic)
Pulse input accuracy (0.1-110 kHz)	Max. error: 0.1% of full scale
Encoder input accuracy (1-110 kHz)	Max. error: 0.05% of full scale 32 (A), 33(B) and 18(Z)

Digital output:
Programmable digital/pulse outputs:	2
Voltage level at digital frequency output	0-24 V DC
Max. output current (sink or source)	40mA
Maximum output frequency at frequency output	32 kHz
Accuracy on frequency output	Max. error: 0.1% of full scale

Specifications

Analog output:
Programmable analog outputs	1
Current range at analog output	0/4-20mA
Max. load to common at analog output	500Ι
Accuracy on analog output	Max. error: 1% of full scale

Onboard Power Supply:
Output voltage	10.5V÷0.5V
Max. load(10V)	Ι5mA
Max. load (24V):	200mA

Relay outputs:
Programmable relay outputs:	2
Max. terminal load (AC) on 1-3 (break), 1-2 (make) 4-6 (break) power card	240 VAC, 2A
Max. terminal load (AC) on 4-5 (make) power card	400 VAC, 2 A
Mm. terminal load on 1-3 (break), 1-2 (make), 4-6 (break), 4-5 (make) power card	24 V DC 10mA, 24VAC 100mA

Protection node for longest possible uptime:
• Electronic thermal motor protection against overload
• Temperature monitoring of the heatsink ensures that the 3G3DV cuts out if the temperature reaches 100°C
• The 3G3DV is protected against short circuits on motor terminals U, V, W
• Protection against mains phase loss
• The 3G3DV is protected against ground fault on motor terminals U, V, W

Specifications

Cable lengths:
Max. motor cable length, screened (shielded):	150m
Max. motor cable length, unscreened (unshielded):	300 m

Surroundings / External:
Enclosure	IP 20/IP 21/IP 54
Vibration test	0.7 g
Max. relative humidity	5%-95% (IEC 721-3-3; Class 3K3 (non-condensing) during operation
Aggressive environment (IEC 721-3-3),	uncoated class 3C2
Aggressive environment (IEC 72 1-3-3),	coated class 3C3
Ambient temperature	Max. 50°C
24-hour average	Max. 45°C

Enclosures Types Sizes [mm] and Weights [kg]

Protected Chassis (IP20) mm / kg

Enclosure name	A2	A3	B3	B4	C3	C4
Height	268	268	399	520	550	660
Width	90	130	165	230	308	370
Depth without Option A or B	205	205	260	242	333	333
Depth With Option A or B	220	220	262	242	333	333
Max Weight	4.9	6.6	12	23.5	35	50

NEMA 1 (IP 21) mm / kg

Enclosure name	A2	A3	B1	B2	C1	C2	D1	D2	E1	F1	F2	F3	F4
Height	375	375	480	650	680	770	1209	1589	2000	2204	2204	2204	2204
Width	90	130	242	242	308	370	420	420	600	1400	1800	2000	2400
Depth without Option A or B	207	207	260	260	310	335	380	380	494	606	606	606	606
Depth With Option A or B	222	222			310	335	380	380	494	606	606	606	606
Max Weight	5.3	7	23	27	45	65	104	151	313	1004	1246	1299	1541

Enclosures Types Sizes [mm] and Weights [kg]

NEMA 12 (IP54) NEMA4 (IP66) mm / kg

Enclosure name	A5	B1	B2	C1	C2	D1	D2	E1
Height	420	480	650	680	770	1209	1589	2000
Width	242	242	242	308	370	420	420	600
Depth	195	260	260	310	335	380	380	494
Max Weight	14.2	23	27	45	65	104	151	313

IP00 / Chassis mm / kg

Enclosure name	B3	B4	C3	C4	D3	D4	E2
Height	399	520	550	660	1046	1327	1547
Width	165	230	308	370	408	408	585
Depth without Option A or B	249	242	333	333	375	375	948
Depth without Option A or B	262	242	333	333			
Weight	12	23.5	35	50	91	138	277

NEMA 1 (IP 21) and NEMA 12 (IP54) mm / kg

Enclosure name	F1	F2	F3	F4
Height	2204	2204	2204	2204
Width	1400	1800	2000	2400
Depth	606	606	606	606
Weight	1004	1246	1299	1541

Models available on each voltage range and Enclosure type

Enclosures Types

240 V		Variable Torque 110%torque		Constant Torque 160%torque		Enclosure Type	
3G3DV-☐2_ _ _-..		A	hp	A	hp	IP20 ☐=A	IP66 ☐=E
004	PK37			2.4	1/2	A2	A5
007	PK75			4.6	1	A2	A5
015	P1K5			7.5	2	A2	A5
022	P2K2			10.6	3	A2	A5
037	P3K7			16.7	5	A3	A5
055	P5K5	30.8	10	24.2	7.5	B3	B1
075	P7K5	46.2	15	30.8	10	B3	B1
110	P11K	59.4	20	46.2	15	B4	B2
150	P15K	74.8	25	59.4	20	B4	B2
185	P18K5	88	30	74.8	25	C3	C1
220	P22K	115	40	88	30	C3	C1
300	P30K	143	50	115	40	C4	C2
370	P37K	170	60	143	50	C4	C2

Models available on each voltage range and Enclosure type

Enclosures Types

480 V 3G3DV-□4_ _ _-..		Variable Torque 110%torque		Constant Torque 160%torque		Enclosure Type					
		A	hp	A	hp	IP20 □=A	IP21 □=C	IP66 □=E	IP54 w/o option cabinet □=D	IP54 w option cabinet □=D	IP00 □=B
004	PK37			1.2	1/2	A2	N/A	A5	N/A	N/A	N/A
005	PK55			1.6	3/4						
007	PK75			2.1	1						
011	P1K1			2.7	1.5						
015	P1K5			3.4	2						
022	P2K2			4.8	3						
030	P3K0			6.3	4						
040	P4K0			8.2	5.5						
055	P5K5			11	7.5	A3					
075	P7K5			14.5	10						
110	P11K	27	20	21	15	B3		B1			
150	P15K	34	25	27	20						
185	P18K	40	30	34	25	B4		B2			
220	P22K	52	40	40	30						
300	P30K	65	50	52	40						
370	P37K	80	60	65	50	C3		C1			
450	P45K	105	75	80	60						
550	P55K	130	100	105	75	C4		C2			
750	P75K	160	125	130	100						
900	P90K	190	150	160	125	N/A	D1	N/A	D1	N/A	D3
11K	P110	240	200	190	150						
13K	P132	302	250	240	200		D2		D2		D4
16K	P160	361	300	302	250						
20K	P200	443	350	361	300						
25K	P250	540	450	443	350		E1		E1		E2
31K	P315	590	500	540	450						
35K	P355	678	550	590	500						
40K	P400	730	600	678	600						
45K	P450	780	650	730	600		F1		F1	F3	N/A
50K	P500	890	750	780	650						
56K	P560	1050	900	890	750						
63K	P630	1160	1000	1050	900						
71K	P710	1380	1200	1160	1000		F2		F2	F4	
80K	P800	1530	1350	1380	1200						

Models available on each voltage range and Enclosure type

Enclosures Types

600 V		Variable Torque 110%torque		Constant Torque 160%torque		Enclosure Type	
3G3DV-□5_ _ _-..		A	hp	A	hp	IP20 □=A	IP66 □=E
007	PK75			1.7	1	A3	A5
011	P1K1						
015	P1K5			2.7	2		
022	P2K2			3.9	3		
030	P3K0						
037	P3K7						
040	P4K0			6.1	5		
055	P5K5			9	7.5		
075	P7K5			11	10		
110	P11K	22	20	18	15	B3	B1
150	P15K	27	25	22	20		
185	P18K	34	30	27	25		B2
220	P22K	41	40	34	30	B4	
300	P30K	52	50	41	40		
370	P37K	62	60	52	50	C3	C1
450	P45K	83	75	62	60		
550	P55K	100	100	83	75	C4	C2
750	P75K	131	125	100	100		

690 V		Variable Torque 110%torque @600V		Constant Torque 160%torque @600V		Enclosure Type			
3G3DV-□6_ _ _-..		A	hp	A	hp	IP21 □=C	IP54 w/o option cabinet □=D	IP54 w option cabinet □=D	IP00 □=B
11K	P110	155	150	131	125	D1	D1	N/A	D3
13K	P132	192	200	155	150				
16K	P160	242	250	192	200	D2	D2		D4
20K	P200	290	300	242	250				
25K	P250	344	350	290	300				
31K	P315	400	400	344	350				
35K	P355	450	450	380	400	E1	E1		E2
40K	P400	500	500	410	400				
45K	P450								
50K	P500	570	600	500	500				
56K	P560	630	650	570	600				
63K	P630	730	750	630	650	F1	F1	F3	N/A
71K	P710	850	950	730	750				
80K	P800	945	1050	850	950				
90K	P900	1060	1150	945	1050	F2	F2	F4	
10M	P1M0	1260	1350	1060	1150				

Omron 3G3DV "aDVanced AC Drive" part number key

3G3DV- 1 2 3 4 5 - 6 7 8 9

1: Environmental protection

A --> IP20/chasis drive
B --> IP00 /open chassis
C --> IP21/NEMA1
D --> IP54/NEMA12
E --> IP66/NEMA 4

2: Rated voltage

2 --> 230 VAC 3 phase
4 --> 460 VAC 3 phase
5 --> 575 VAC 3 phase for 1 to 100HP
6 --> 690 VAC 3 phase for 125 and up

3 4 5: Rated power in kW

Type	Rating kW	Type	Rating kW
002	0.25	550	55.0
004	0.37	750	75.0
005	0.55	900	90.0
007	0.75	11K	110
011	1.1	13K	132
015	1.5	16K	160
022	2.2	20K	200
030	3.0	25K	250
037	3.7	31K	315
040	4.0	35K	355
055	5.5	40K	400
075	7.5	45K	450
110	11.0	50K	500
150	15.0	56K	560
185	18.5	63K	630
220	22.0	71K	710
300	30.0	80K	800
370	37.0	90K	900
450	45.0	10M	1000

6: Internal Transistor Brake

0 --> w/o brake
B --> w / brake

7: PCB coated

0 --> w/o coating
C --> w / coating

8: input options

0 --> w/o options
1 --> Mains disconnect
2 --> w/ load sharing
3 --> w / fuses
4 --> w / fuses w/ load sharing
5 --> Mains disconnect w / fuses
6 --> Mains disconnect w/ load sharing
7 --> Mains disconnect w / fuses w/ load sharing

9: RFI filter

0 --> w/o RFI Filter
1 --> w / RFI Filter type A2
2 --> w / RFI Filter type A1

Accessories

Description	Omron Part #
Port A Option Board Profibus	3G3DV-APRO-1
Port A Option Board DeviceNet	3G3DV-ADEV-1
Port A Option Board Ethernet IP	3G3DV-AEIP-1
Port B Option Board General Purpose I/O	3G3DV-BGIO-1
Port B Option Board Encoder	3G3DV-BENC-1
Port B Option Board Resolver	3G3DV-BRES-1
Port B Option Board Relay	3G3DV-BRLY-1
Port B Option Board 24VDC Supply Option	3G3DV-B24S-1
Port B Option Board Safe PLC interface 3G3DV-BSPI-1	
PROFISAFE	3G3DV-EXPFS-1
Digital Operator Advanced	3G3DV-DPGR-1
Digital Operator Numeric	3G3DV-DPNU-1
Digital Operator Panel mounting kit	3G3DV-DPMK-1
Field-bus Decoupling Plate	3G3DV-EXDP-1
USB IP55/IP66 Cable 350 mm	3G3DV-EC-1
USB IP55/IP66 Cable 650 mm	3G3DV-EC-2
IP21 NEMA 1 Kit Frame A2	3G3DV-NKA2-1
IP21 NEMA 1 Kit Frame A3	3G3DV-NKA3-1
IP21 NEMA 1 Kit Frame B3	3G3DV-NKB3-1
IP21 NEMA 1 Kit Frame B4	3G3DV-NKB4-1
IP21 NEMA 1 Kit Frame C3	3G3DV-NKC3-1
IP21 NEMA 1 Kit Frame C4	3G3DV-NKC4-1

Back plates

A5 IP55 / Nema 12	3G3DV-N12KA5-1
B1 IP21/IP55 / Nema 12	3G3DV-N12KB1-1
B2 IP21/IP55 / Nema 12	3G3DV-N12KB2-1
C1 IP21/IP55 / Nema 12	3G3DV-N12KC1-1
C2 IP21/IP55 / Nema 12	3G3DV-N12KC2-1

Back plates -Stainless Steel

A5 IP66 / Nema 4x	3G3DV-N4XKA5-1
B1 IP66 / Nema 4x	3G3DV-N4XKB1-1
B2 IP66 / Nema 4x	3G3DV-N4XKB2-1
C1 IP66 / Nema 4x	3G3DV-N4XKC1-1
C2 IP66 / Nema 4x	3G3DV-N4XKC2-1

Installation accessories

Panel Through A5	3G3DV-PTKA5-1
Panel Through B1	3G3DV-PTKB1-1
Panel Through B2	3G3DV-PTKB2-1
Panel Through C1	3G3DV-PTKC1-1
Panel Through C2	3G3DV-PTKC2-1

PC Software

MCT 10 set-up software -(free)	3G3DV-SFDPT0-1
MCT 10 set-up software -1 user	3G3DV-SFDPT1-1
MCT 10 set-up software -5 users	3G3DV-SFDPT5-1
MCT 10 set-up software -10 users	3G3DV-SFDPT10-1

3G3DV-ADEV-1 DeviceNet

Based on Producer/ Consumer technology, DeviceNet offers robust, efficient data handling,

• Allows the user to select the nature and timing of reported information

• ODVA's strong conformance testing policies ensure that products are interoperable

3G3DV-APRO-1 Profibus

Supported by all major PLC vendors, PROFIBUS DP V1 gives you a high level of availability and compatibility with future versions.

• Fast and efficient communication, advanced diagnosis and auto configuration of process data via GSD files

• Acyclic parameterization using PROFIBUS DP V1, ProfiDrive or PROFIBUS DPV1, Master Class 1 and 2

3G3DV-AEIP-1 Ethernet IP

Delivers connectivity to EtherNet/IP based networks via the Common Industry Protocol (CIP) protocol.

• It is able to handle a single EIP Class 1 connection with an Actual Packet Interval (API) of just 1 ms in both directions, one of the highest performing EIP devices in the market.

• Built-in 2 port switch with diagnostic functions that enables traditional line network topology, while eliminating the need for complex cabling and expensive industrial Ethernet switches.

Application options

3G3DV-BGIO-1 General Purpose I/O

Offers an extended number of control inputs and outputs:

• 3 digital inputs 0 - 24 V. Logic'0'< 5V; Logic'1' >10V
• 2 analog inputs 0 - 10V: Resolution 10 bit plus sign
• 2 digital outputs NPN/PNP push pull
• 1 analog output 0/4–20mA
• Spring-loaded connection
• Separate parameter settings

3G3DV-BENC-1 Encoder

For connecting an encoder feedback, from either a motor or a process. Feedback for asynchronous or brushless servo (Permanent Magnet) motors.

• Incremental encoders
• SinCos encoders with Hyperface.
• Power supply for encoders
• RS422 interface
• Connects to all standard 5V incremental encoders
• Spring-loaded connection

3G3DV-BRES-1 Resolver

Supports resolver feedback from brushless servo motors and feed back for flux vector controlled asynchronous motors in a rough environment.

• Primary Voltage: 4 - 8Vrms
• Primary Frequency: 2.5 kHz - 15 kHz
• Primary current max: 50mA rms
• Secondary input voltage: 4Vrms
• Resolution: 10 bit @ 4 Vrms input amplitude
• Spring-loaded connection
• Separate parameter settings

3G3DV-BRLY-1 Relay

Extend the relay functions of the 3G3DV with 3 extra relay outputs.

Max. terminal load:

• AC-1 Resistive load 240V AC: 2A
• AC-15 inductive@ cos <φ 0.4: 0.2A
• DC-1 Resistive load 240V AC: 1A
DC-13 inductive @ cos <φ 0.4: 0.1A

Min. terminal load:

• DC5V: 10mA
• Max. switch rate at rated load/mm. load: 6 min^{-1}/20 sec^{-1}
• Protected control cable connection
• Spring-loaded connection of control wires
• Selection of relay functions in parameter settings

3G3DV-BSPI-1 Safe PLC Interface

A cost-effective method of ensuring safety, the Safe PLC interface enables the connection of a dual-wire safety link between a Safe PLC and a single pole 24V DC Input on the drive.

The Safe PLC interface allows the Safe PLC to interrupt operation on the plus or minus link without interfering with the sense signal of the Safe PLC.

Other accessories

Profisafe

It allows the user to build a network that handle both, standard control signals and safety ones, greatly reducing engineering time and costs.

• On board safety inputs and outputs
• Suitable for Category 4 safety (EN954) applications

Interface accessories

3G3DV-DPGR-1 Graphical Digital Operator

• Multi-language display
• 3G3DV status messages
• Quick menu for easy commissioning
• Parameter setting and explanation of parameter function
• Full parameter backup and copy function
• Alarm logging
• Info button explains the function of the selected item on display
• Hand operated start-stop or selection of Automatic mode
• Reset function
• Trend graphing

3G3DV-DPMK-1 Digital Operator Panel Mounting Kit

The Digital Operator mounting kit enables the Digital Operator to be mounted In an IP 65 cabinet front

• 3m cable
• Gasket for sealing
• Finger screws for easy fitting
• Supports Digital Operator 3G3DV-DPNU-1 and Digital Operator 3G3DV-DPGR-1

3G3DV-B24S-1: 24 V DC Supply option

Enables connection of external DC supply to keep the control section and any option installed active despite interruption of AC power

• Input voltage range 24VDC+/- 15% (max. 37Vin 10sec.)
• Max. Input current: 2.2 A
• Max. cable length: 75 m
• Input capacitance load: <10 uF
• Power-up delay: 0.6 s

3G3DV-EXDP-1: Decoupling plate for Fieldbus cables

It makes fieldbus mounting robust.

3G3DV-NKxx-1: IP21 / NEMA 1 kit

Used for Installations In dry environments.

• Available for frame sizes A2, A3, B3, B4, C3 and C4
• Can be used with or without mounted option modules
• PG 16 and PG 21 holes for glands

Dynamic braking

The 3G3DV can be ordered with a built-in dynamic brake option utilizing the latest IGBT technology to provide fast deceleration of the connected motor. The dynamic brake option is built into the 3G3DV at time of purchase and cannot be retrofitted in the field

Brake resistors

Brake resistor(s) must be used in conjunction with the dynamic brake to dissipate the heat/power regenerated by the motor during deceleration or overhauling load. Braking energy is only absorbed into the brake resistor. Brake resistors must be ordered separately and field installed by the customer

Disconnect Switch

Mounting the optional disconnect switch on the front of B, C, D, E or F enclosures eliminates the need for an external switch box.

Profibus Adaptor Sub-D9 Connector

Uses a Phoenix type connector to connect to the Profibus Fieldbus Option (3G3DV-APRO-1) and provides a Sub D plug-in connection in place of screw type termination.

Advanced Harmonic Filters (For complying with IEEE519-1992)

Advanced Harmonic Filter AHF 010 reduces harmonic current to less than 10%; the AHF 005 lowers this current to less than 5%. AHF 005 and AHF010 are advanced harmonic filters and should not be compared with traditional harmonic trap filters. They have been specially designed to match 3G3DV variable frequency drives. Advanced harmonic filters feature user-friendly startup and ownership, requiring no adjustments upon installation and no routine maintenance.

Sine wave Filters

When the speed of a motor is controlled by a drive, resonance noise from the motor can occur. This is due to the construction of the motor and the switching of IGBT's. The frequency of the resonance will correspond to the switching frequency of the drive. For sensitive applications, Omron offers Sinewave filters for the 3G3DV to dampen the acoustics. These filters are installed electrically between the 3G3DV and the motor to reduce voltage rise time (dv/dt), peak voltage (Vmax) and the ripple current to the motor, thus reducing the noise generated. Sinewave filters must be ordered separately and field installed by the customer.

LC Filter

It reduces line-to-line voltage spikes, as well as the rate of voltage rise.

PC Software

SFDPT1 (Motion Control Tools)

Offering advanced programming functionality for the 3G3DV AC Drives, SFDPT1 greatly reduces programming and commissioning times. 3G3DV AC Drives are managed in a standard folder-based user interface that's familiar and easy to understand. Parameter settings for each drive are contained in a single file, simplifying setup and the duplication of parameter sets between drives.

• SyncPos programming
• On-line and off-line commissioning
• On-board help files for each drive parameter
• Logging of alarms and warnings for improved system performance and documentation
• Real-time data collection using the SFDPT1 Scope function
• Access to the 3G3DV AC Drive's internal data buffer, providing up to four channels of high speed (down to 1 msec) data collection
• Remote debugging using modem communications.

Simplified programming of the 3G3DV AC Drives's Smart Logic Controller using graphical programming tools

Drive up grade tools

SFDPT1 Basic version is available free of charge from the Omron web site.

The Advanced edition, which offers a higher level of functionality, is available from your Omron sales partner.

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